FINAL REPORT

OF THE

REVISION OF SETTLEMENT

(1878 - 83)

OF THE

LUDHIANA DISTRICT

OF THE

PANJAB

DY

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SETTLEMENT OFFICER.

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TABLE OF CONTENTS.

PART I.—Descriptive and Historical.

CHAPTER I.—Descriptive.

Para.		SUBJE	CT.		Pag
1.	Geographical position	•••	•••	•••	•••
2.	Details of area	•••	•••	•••	· i
3.	Natural divisions : Béi	and Dhaia	· · · ·	•••	•••
4.	Description of the river	Satlej ; bri	dges and fe	erries : navig	ration i
5.	Changes in the course	of the River	; limits of	the Bét trac	ėt i
6.	The Budha nála		Charles of	•••	
7.	General description of	the Bét tract	; soil	••	i
8.	The Dhaia or uplands ;	surface of t	he country	; drainage lie	nes
9.	Soils of the Dhaia	"PARTERS	Service Control		•••
10.	Minor sub-divisions of	the Dhaia	7	•••	i
11.	Flora. Trees	7.77 1/1	机 7	•••	•••
12.	Shrubs, grasses, &c.,	in the Bét;	in the Dh	aia ; Sarwár.	iháre:
	noxious weeds	Canal Lie			
13.	Fauna. Mammals; g	ame birds;	snakes; f	ishes (lists s	upplied
	Mr. F. Field)	Property of the second			•••
14.	Sport; small game; pi	gs; deer		•••	1
15.	Mineral products	장점 타기	नगत्.	•••	1
16.	Rainfall; annuel; dist	ribution thre	oughout th	e year	i
17.	Temperature	•••	•••	• •••	2
18.	Health	•••	•••		2
	CHA	PTER II	-Нівтовіс	CAL.	•
19.	Physical changes	•••	•••	•••	2
20.	Importance of the distr	ict in history	у	•••	i
21.	Early history; Hindu	period; Sun	et ; Tihára	; the Rájpu	ts and
	Jats	•••	•••	•••	il
2 2.	History under the Pat	hán dynasti	es; foundi	ng of the t	own of
	Ludhiána, and fir	st settled go	vernment o	f the country	v under
	the Lodis	•••	•••		2
23.	Under the Mughal Em	pire : Akbar	• •••	•••	··· il
24.	Rise of the Sikhs and d	ecline of the	e Empire	•••	2
25.	Duráni invasions; to tl				
	1763)		•••	•••	/ 2
26.	Partition of the country	after the fa	ll of Sirhir	nd : change	
-	River's course			,	2
27.	State of the country at	this period	•••	•••	2
28.	Attacks of Sikhs from				0
••		MOTORS ATTO ME	, one		· · · · · · · · · · · · · · · · · · ·

CONTENTS.

Para.	SUBJECT.	Page,
9.	Máharája Ranjít Singh's invasions and annexations; extinction	
	of the power of the Rais; division of the country	ib.
30.	Interference of the British Government; treaty of 1809; British	
0,,	Cantonment established at Ludhiána	30
31.	History of the country from 1809 to 1835; our first acquisition	
01.		ib.
00	of territory	6.1
32.	Orcumstances leading to the first Sikii war (1000-110)	
38.	The Satlej campaign; action at Badowál; battle of Aliwál	
34.	Close of the campaign and annexation of the cis-Satlej country	
35.	History from 1846 to 1857	34
36.	The Mutiny (1857)	85
37.	The Kuka outbreak	86
38.	Antiquities of the district	, 20
	property states or annual to design and the state of the	
	b - restrict for the first and the second of	
	CHADTED III The Dearer	
	CHAPTER III. THE PEOPLE.	
	A Statistical.	
		ib.
39.	Population of the District; urban and rural	
40.	Increase in population Density; impossibility of strict classification of the population	, 91
41.	Density; impossibility of strict classification of the population	. 38
42.	Size of proprietary and tenancy holdings	. 40
	B.—Division into Tribes and Castes.	
43.	Divisions of the population into trib's and castes	41
44.	Priestly and religious classes: Brahmins; other religious classes	•
TI.	Bharaies; Udásis; Bairágis; Saiads and other Mahomedans	ib.
4 5.	Mercantile classes; Khatris; Bánias; Sunáras; the Suds	
	Agricultural classes; division of the land amongst them	.,,
46.	The Jats. Religion of the Jats	
47.	General qualities of the Jats as agriculturists	:1
48	Two types of the Hindu lat	
49.		
50.	"Gots" or sub-divisions of the Jats; Garewal; Gil; Sidhu	, . 46
	Dháliwál; Bhandér; Sekhon; Dhilon; minor sub-divisions	
51.	The Rajputs; their character; sub-divisions of the tribe	
52.	The Gujars; religion; characteristics	
53.	The Araiens; characteristics	
54.	The Awans	\cdot ib .
55.	Minor land-owning tribes; the Dogars; Saiads; miscellaneous	. 51
56.	Menial and artizan classes; Chamárs; Chuhras; Tarkhán	;
•••	Lohár; Jhínwar; Naie; Juláha; Kumhár, &c	
57.	Other miscellaneous classes	. 53
٠	· ·	
	C.—Religion and Social Life.	
*0	Distribution between the various religions; Hindus and Sikhs	a
5 8.	Distribution between the various religious; inflicts and blanch	
~ ^	in the agricultural population; Mahomedans	
59.	Hindu sects; Sultánis	
60.	Sikhs	E 0
61.	Kukas	
6 2.	Mahomedans; character of their religion	57

Para.	SUBJECT.	
192.	The term of the Regular Settlement	• • •
193.	Working of the Regular Settlement : opinions of office	ers in
	charge of the District as to the Regular Settlement a	
	ment; Major McNeill, Col. Davies, Mr. C. P. Ellio	it and
	Mr. Cowan	•••
194.	Transfers of land; general causes	•••
195.	The classes to whom the transfers have been made	•••
196.	Frice of land; land taken up for public purposes	• • •
	will define the same of the sa	
	CHAPTER VIII THE REVISED ASSESSMENT, 1879-	-83.
197.	The new assessment; principles for guidance in a revis	-
100.	assessment	104 04
198.	General considerations on which the revision is based. In	croase
100.	of cultivation and in the means of production; increase	_
	irrigation	•••
199.	Prices	•••
200.	Conclusions to be drawn from the rise of prices	•••
201.	Conclusions to be drawn from the rise of prices (continued)	
202.	Assessment circles; nomenclature adopted	•••
203.	Classification of soils; irrigated and unirrigated; nia khális well; unirrigated lands; Dhaia; Bét lands	i and
	khális well; unirrigated lands; Dhaia; Bet lands	
204.	Revenue rates; guides in framing them; those of the R	egular
	Settlement; village rates	
205.	Cash rents now paid; different forms of each rent; bigak	rates
	and consolidated rents; cash rates on crops. Rates of	of rent
	pravailing; crop rates; sugarcane; maize and co	tton;
	charri and fodder	***
206.	Relative value of the different soils	***
207.	Produce estimates	•••
208.	Gross produce; area under crops	***
209.	Crops on which cash rents (sects) are paid	` •••
210.	Average rate of yield; experiments	
211.	Other means of information as to the yield and val	ue of
0.40	crops	
212.	Rates of yield adopted and those given by the experimen	
010	the principal crops	•••
213.	Value of the total produce; prices adopted	•••
214.	Fodder crops; green fodder in the Rabi; autumn fodder	
012	(charri, &c.); exclusion of straw Deduction for the dues of kamins or village menials	
215.		•••
216.	Rates of rent in kind Proportion of the estimated half net profit to the value	of the
217.		or rue
010	total produce Account of the assessment of each circle	•••
218.	Account of the assessment of each circle	•••
	TAHSIL SAMRALA. Bet Circle.	
219.		
	General description: the mand: the packa Bét	
	General description; the mand; the packa Bét Crops and husbandry; sugarcane-crop	•••
220. 221.	General description; the mand; the packa Bét Crops and husbandry; sugarcane-crop Agricultural tribes and tenures	•••

Para	v. Subject.	Pag
63.	Pilgrimages and religious fairs frequented by the people; Sakhi Sarwar; temple of Devi at Joala Mukhi; Hardwar Fair;	
	Darbár Sáhib; Kulchetar; Pehoa; Phalgu; Mahomedan pilgrimages	į
64.	Fairs in this district; Chet Chaudas; Roshani; Bháiceála Fair; Sudlakhan or Chhapár Fair; Jángpur Fair	į
65,	Religious and charitable institutions; Dharmsálas and Langars or alms-houses; Bágrian, Jaspál Bángar, Heran Langars	(
66.	Observances and superstitions; power of the Bráhmins and priests; agricultural superstitions; supernatural agency;	
0=	sacred groves	(
67.	Social life; arrangement of the villages; village gates; surroundings of a village; sites of the western villages; Mahomedan	
CO	villages of the Bét	
68.	Houses; internal arrangement; Hindu Jats; Mahomedans	ì
69. 70	Furniture	1
70.	Utensils for cooking and eating	ì
71.	Clothing; Hindu Jats, men; Jat women; Mahomedan dress	i
72.	Jewelry	,
73.	Food and meals	
74.	Daily life and work; amusement	
75.	Divisions of the day Web and are	
76.	Customs connected with birth; Hindus; Mahomedans	
77.	Betrothal. Hindu Jats; pun betrothals and for consideration; price of girls	
=0	price of girls	
78.	Marriage; ceremonies of marriage; second or karewa marriages	
79.	Betrothal and marriage amongst Mahomedans	
80.	Funeral rites and ceremonies; Hindus; Mahomedans	
81.	Character and disposition of the agricultural population; crime; litigiousness; use of spirits and drugs	
82.	General state of comfort. Agricultural people of Bét; Hindu Jats	
83.	Language	1
84.	Education. Numbers under instruction; schools, Government and aided; indigenous schools, Mahomedan, Hindu and Sikh	*
	D.—Village Communities.	
85.	Constitution of the village communities and sub-divisions	
86.	Village officers and servants; the Lambardárs or village headmen; the kharpanch; the tolah or weighman; Patwáris	8
87.	Common village property; income and expenditure; village cesses	
	ELeading Families of the District.	
88.	Phulkian families; Bhadour chief and Maloud family	1
89.	Family of Ladhran	
90.	Other jagirs in Samrála Tahsíl; Kotla Badla; Jabu Mazra; Kotla Ajner. Extinct or decayed families, the Sodhis of Máchiwárah;	
	Kákar family; Khanna Jágír; Kheri Jágír	8
91.	Minor Jágírs of Ludhiána Tahsil; Khosa Jagir; Háns; Bágrian;	
	Bhaie of Arnouli	. 8
9 2.	Jagraon Tahsil; the family of Rajab Ali	8
03	The Rais of Raikot	

P_{ℓ}		SUBJECT.		Para.	Para.
_ •	Shah Shujah ; Jhajjar		es in Ludhiána:	94. Refuge	94.
	• • • • • • • • • • • • • • • • • • •	pensioners	váb's family; other	Nav	
		r-moior		3 W f	
	AND DISTRIBUTION.	RODUCTION AN	CHAPTER IV.—	. (
		—Agriculture			
				05 A	O.E
			under the various cr		
	m odomena im forman am i	year	asons; agricultural	96. The se	
	on adopted in former and the various soils; bad	; classification	ant Sattlements	97. Soils, 1	34.
	the various sons; pac	omparison or i		pres soils	
	Bét; wells in the up-	low lands or			98
	_	•• ···	ls		00.
	wells; supply of water				99.
	s nois, supply of nator	a depen or one	he wells		
		well	l of constructing a		100.
	***	(T)(10)(1)	ing power of a well		101.
			Caual		102.
		nd appliances	ltural implements a		103.
	he district; cultivation at	riculture of the	l sketch of the ag	04. Genera	104.
	•••		wells in the Dhaia	the	
	wo years course; other	ation; the tw	gated Dhaia cultin	05. Unirri	105.
		The second of the second	ems	svst	
	nanured	anured; unma	tion in the Bét; n	106. Cultive	106.
	•••	oughing	dar operations. Pl	107. Particu	107.
	ging; cutting; stacking	hoenig; hedgi	operations; sowing	08. Other	108.
		the facility of the said of	threshing	and	
		the soil	ons. Exhaustion of	09. Rotatic	109.
	• •••		3	.10. Manur	l 10.
	• ••• •••	ding	cultivation of a ho	11. Actual	111.
	• •••	ne and add.	cultivation of a holar crops. Sugarca	12. Particu	112.
	• • • • • • • • • • • • • • • • • • • •	•••	•••	113. Cotton	113.
	• •••	•••			114.
	• •••	t	; varieties of whea		115.
	• •••	•••			116.
	··· ···		mixed gram and v		117.
	• • • • • • • • • • • • • • • • • • • •		pulses and millets		118.
		•••			119.
		•••			120.
			ltural calendar	zt. Agricu	121.
	griculture and staples.	cments in ag	e yicid. Improv	zz. Averag	122.
	culture	ruit; arboricu	opean enterprise.	eo C.I.	100
	ine 1940	ought and famil	ties of season. Dr		23.
	mine of Sambat 1840;				24.
	; Sambat 1917; Sambat				
			5; 1877-78 A.D.;		105
	light; hail; lightning.	nnillang - Z	caramines. "Aga	zə. Winor	125.
	ngi; telia; &c. white	ipinars; kung	Detained in Teles	Inse	
	abti or crop rents; bigah	to in cook	. Rats; jackals;	ants	26.
	kind				40.
	7144/7 +++	A. TACHTOD III IZI	A TOTTO TOT HOLDING	rates	

Para.		SUBJECT.			F
127.	Agricultural partnerships.	Farm lab	ourers	•••	•••
128.	Village menials and artiza	ns : Cham	árs : Takhái	: Lohár. &	
				,,	
	В	.—Live St	ock.		
129.	Enumeration of cattle	•••	•••	•••	•••
130.	Draught and plough cattle	•		•••	•••
131.	Food of draught cattle	•••	•••	•••	
132.	Milch kine	•••	•••	•••	•••
133.	Loss of cattle by disease	insufficien	t food : dro	ught : disea	ses
	prevalent; "galgotu"	foot and	mouth dis	ease : ordin	arv
	ailments of cattle	•••	•••	•••	
134.		••	•••	•••	
135.	α ·		***	***	
136.	Sheep and goats, and misc		•••	•••	•••
100.				•••	•••
	CT	rade and C	ommerce.		
137.	Industries and manufactur	es ; genera	l statement	of trades	and
	industries	PARTIES.		•••	•••
138.	Sugar industry		1-0-	•••	•••
139.	Course and nature of the	rade of the	District	••	•••
140.	The dia dearer	Carle of Charles and	1 1-31-1-27	•••	•••
141.	Means of carriage; carts		Chica chi		•••
142.	Extent of the trade		31 707/1		
143.	Prices, &c. Wages of la	bour in the	towns: art	icoos : enesid	eg •
	weavers. In the village	g l ll. L	nt	•••	•••
144.	3.7		• .		
145.	Measures of length, weigh Measures of area; the	bigah of	Akbar : me	asures of	the
	country	· · · · · · · · · · · · · · · · · · ·	ألسال	•••	***
146.	Communication by water			•••	
147.	Railway			•••	•
148.	Roads; metalled; unmeta	lled		•••	•
149.	Encamping grounds		1 4	•••	•••
150.	Bungalows and rest-house		***		
151.	Postal arrangements, &c.			•••	•••
101.	r ostar arrangements, wor,	ock graph	18*	•••	•••
	-				
	CITA DOUGD IZ A				•
	CHAPTER V.—A	DMINISTRA	TIVE AND F	INANCIAL,	
152.	Executive and judicial sta	ff: revenu	e sub-division	ns and agend	ο υ •
	tahsíls; kánungo ag	ency attas	hed to tah	sils : size	of
	Ludhiana tahsil; jág	írdár mag	istrates : par	reana suld	ivi
		•••	, pu	Sulla Pana	•••
153.	O1 11 1141 41		•••	•••	
154.	Criminal work and Courts		•••	•••	
155.			•••		•••
156.	Police Jail			•••	
157.	Forms of crime; criminal	tribos	•••	•••	•••
158.	Revenue and taxation;		and proving	inl courses	
100.	income; local taxation;	n qietai	and provinc	ootro: 1	oto] OI
	A a se a di a se			•	
159.	Tidractional . medical	•••	•••	•••	•••
TOO.	and an one interior	• • •	***		•••

CONTENTS

Para.	Subject	CT.			Page.
160.	Ecclesiastical	•••	•••		152
161.	Head-quarters of other department	ts	•••		ib.
162.	Land revenue	•••	***	•••	ib.
163.	Military	•••	•••	•••	ib.
	CHAPTER V	I.—Towns	•		
164.	Size of villages and terms	•••	•••	•••	ib.
165.	Municipalities		•••		153
166.	Town of Ludhiana; position; his	story under	native rule	••	ib.
167.	History under our rule	•••	•••	•••	154
168	General description of the town	•••	•••	•••	155
169.	Health and vital statistics	•••	•••	•••	ią.
170.	Trade and manufactures ; woollen	weaving; s	hawls, &c. co	otton;	
	embroidery; carpentry and mis	cellaneous	•••	•••	156
171.	Maniginality and actrai			•••	159
172.	Public institutions; educational,	&e. pu	iblic offices;	Civil	
	station; the Fort; streets of t	he eity; M	lission settlem	ent	160
173.	Objects of interest		• • •	•••	161
174.	Jagraon; situation; general description	ription	***	•••	ib.
175.	History	100	•••	• • •	162
176.	Trade and manufactures		•••		ib.
177.	Municipality and public institutions	s : objects	of interest	•••	163
178.	Raikot	property.	•••	•••	ib.
179.	Machiwarah	1 1	**	•••	164
180.	Khannah		•••	•••	165
181.	Bahlolpur	100	•••	••	ib.
182.	Khannah Bahlolpur Large villages		•••	•••	ib.
	PART II.—The Revised	· · · · · · · · · · · · · · · · · · ·	nt /1979	03 /	
	PARI II.—Ine itevised		110 (1010—	00).	
OILY.	PTER VII.—FISCAL HISTORY OF	тик Діят	מד חד המי	rnn pr	RERNT
OIIA.	SETTLEM			-11-	
183.	Contents of the second part of	the report	: Akbar's re	venue	
100.	evetem (1556—1605)		***		167
184.	Revenue management under th	a later F	mpire : leas	es to	•••
104.	mustojirs or "zemindars"	***	•••	•••	168
195.	Revenue management under the Si		•••	•••	169
	The same continued; niethods of	f fixing the	e revenue dem	and	100
186.	mushakhsa or eontraet; kan	or anne en	ement and	zahti	
	or crop rates; bataie or divis	sion of th	e produce:	extra	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•••	170
107	Sottlement of villages that lapsed in	n 1835	•••	•••	171
187.	Summary assessments, 1847—49		•••		172
188.	The Regular Settlement; method	of calculat	ing the rental	•••	173
189 .	Regular Settlement continued; the	ha Garam	ment chere	of the	¥10
190.	rental and the actual assessment		mone share		174
104	Regular Settlement continued; ge	noral ohere	eter of the e	99999	AIT
191.	ments, as described by Mr.	Ramoa ·	Pakhowal Ta	hall •	
	Jagráon Tahsíl; Ludhiána Tah	all			175
	ASESON TRUSH! PROHISMS TRU	1911	• • •	•••	* 1 0

X CONTENTS.

Para.		SUBJE	CT.		
222.	Sales and mortgages	; impoveris	shed condi	tion of the	traet;
	eauses: connection	between t	his and G	overnment	revenué
	demand		•••	•••	•••
223.	Increase in resources	•••	•••	•••	•••
224.	Former rates ; eash r Rupar Bét ; Garh	ents; rates shankar Be	in neighbo it; Nawas	ouring Bét hahr Bét	tracts; native
		•••	•••_	•••	•••
225.	Rates adopted and asso	ssment ann	ounced	•••	•••
		Lower Dhai	a Circle.		
226.	General description; t	he Bét port	ion: the L	haia : irris	eation
227.	Crops and husbandry Tribes and tenures : te	***	***		3.44.01.11.
228.	Tribes and tenures; te	nants	•••	•••	•••
229.	Condition of the tract			•••	•••
230.	Changes in the resource			•••	416
231.	The rates; cash rents		•••	•••	
232.	Revenue rates sanctione	ed and resul	ts	•••	***
	7	Opper Dhai	Oircla		
000					
233.	General description; s Produce and husbandry Tribes and tenurcs	8HO		•••	•••
234.	Produce and nusbandry	낙상하다		•••	•••
235.	Tribes and tenurcs Condition of the tract	Job4 8-	i dam all		
236.	Condition of the tract	in a of land	s. , sinan		
097	transferred; and value in resources Rates; former assessm	iue of land	1	•••	•••
237. 238.	Pater a former aggests	ont Cock	monta	•••	•••
239.	Pates proposed a regular	one. Oash	All de	•••	•••
2004	Rates proposed; results	Name and Address of the Owner,	The state of the s	•••	•••
	TAHSIL LUDHIA	ANA. The	Bét Circle	s; Bét I .	Kocha.
240.	General description	The state of	1-1	•••	••
241.	Crops and husbandry	•••		•••	••
242.	Crops and husbandry Tribes of proprietors	AMERICA .	F 11-7		•••
243.	Condition of the tract			•••	•••
244.	Former and present sta		•••	•••	•••
245.	Regular Settlement rat		rents : rat		
	results			•••	•••
		Bet I P	acka.		
246.	General description	•••	•••	•••	•••
247.	Crops and husbandry	•••	•••	•••	•••
248.	rigilicalitat at titles	•••	•••	•••	
249.	Condition of the tract	sales and		; working	of the
	Regular Settlement	assessment	•••	***	•••
250.	Increase of resources;	population	•••	••	•••
251.	Classification of unirrig	ated land			•••
252.	Rates ; Regular Settle		ribution rat	es ; cash re	nts
253.	Revenue rates sanctione	ed	•••	•••	•••
		Bet I	I.		
254.	General description				
255.	Crops and husbandry	•••	•••	•••	•••
256. 256.		•••	•••	•••	•••
	ALMIIUMIVAIMI VIINUN			***	

contents. xi

Para.		SUBJI	ECT.			Page.
257.	Condition of the tract	•••	•••	•••	•••	ib.
258.	Increase of resources	•••	•••	•••	•••	231
259.	Rates of the Regular S	Settlenicht:	cash rents			ib.
260.	Revenue rates sanction		•••	•••	•••	232
		Lower Dhai	ia Circle.			
261.		2000				233
262.	General description Condition of the tract	. soles and	***	***	***	200 ib.
263.				•••	•••	234
264.	Changes in resources;	cumvamon	and irrigation	•••	•••	235
40 1 .	Rates adopted			•••	•••	200
		Upper Dha	ia Circle.			
265.	General description		•••	•••	***	ib.
266.	Agricultural tribes and	tenures		•••	•••	236
267.	Condition of the Circle	; sale and	mortgage	•••	•••	ib.
268.	Increase in resources;	cultivation	; irrigation	•••	•••	237
269.	Rates adopted	•••	•••	•••	•••	238
		The Pawad	h Circle:			
270.	General description	ETR				ib.
271.	Crops and husbandry;	irrigated	cultivation; u	nirrigat	ed culti-	
	vation	· · · · · · · · · · · · · · · · · · ·		• • •	•••	ib
272 .	Agricultural tribes	1300	433 0 29	•••	•••	239
273.	Sales and mortgages;			•••	•••	ib
274.	Increase in resources	70	14 1. 14	•••	•••	240
275.	Rates sanctioned	11 10	d fine	***	•••	241
		Tihára	Circle.			
276.	General description	1.16-5-5	20,000	•••		ib.
277.	Irrigated cultivation;	unirrigated		• • •	•••	ib.
278.	Tenures and agricultur	al tribes	तित अपने	•••	•••	242
279.	Condition of the Circle	e		•••	•••	ib.
280.	Increase in resources	•••	• • •	•••	•••	ib.
281.	Rates sanctioned	•••	•••	• • •	•••	240
		The Janga	l Gircle.			
282.	General description; s			•••	•••	ib.
283.	Crops and husbandry;		•••	•••	•••	244
284.	Tenures and agricultur		••	•••	•••	245
285.	Condition of the tract			•••	•••	ib
286.	Increase in resources	, 20200 0220		•••	•••	246
287.	Rates sanctioned	•••	•••	•••	•••	247
			ON. Bét Cir		•••	•
2 88.	General description; I				, ;	ib
289.	Crops and husbandry	irrigated;	unirrigated n	nand; t	ne packa	0.10
000	Bét	•••	•••	•••	••• ,	248
290.	Agricultural tribes and			•••	•••	249
291.	General condition of t		_	_	•••	250
292. 293.	Increase of resources Rates sanctioned	•••	•••	***	*** .	ib
ZMA.	Daties Stuctioned					1/1

xii CONTENTS.

Para.		នប	BJECT.			Pag e
	Low	er D	haia Circle.			
294.	General description .	••	•••		•••	251
2 95.	Agricultural tribes and ten	ures	•••		•••	252
296.	Condition of the tract: sa	les a	nd mortgages	•••	***	ib
297.	Increase of resources	••		• • •	•••	253
298.		••	•••	•••	•••	ib
	Itan	en D	haia Oircle.			
299.		C/ 17/	nutu Otrete.			
	General description		1 11 12	• • • •		-ib
300. 301.	Crops and husbandry; irri	gateo		rrig	ated	254
	Agricultural tribes; tenure	es T	***	•••	***	255
302.	Condition of the Circle;	Jat	Villages; Mahon	ieda	n villages;	
303.	sales and mortgages .	••	***	•••	•••	256
	Increase in resources .		***	•••	•••	ib
304.	Rates sanctioned .	• •	•••	•••	***	257
	- Control of the Cont	-	n e 10%			
805.	General result for the whol	e Di	strict		•••	ib.
306.	Cesses	- 3-3-1		•••	•••	258
807.	General character of the ne	PR W	geggment.		•••	259
308.	Term of the new settlemen	t		•••	•••	ib
309.	Term of the new settlemen Village note books				•••	ib.
		40 41				
		10	D 1 + D1			
	CHAPTER IX.—THE RE	CORD	OF RIGISS AND	OTI	HER MATTERS	
	CONNECTED	WITH	THE SETTLEMEN	T.	AMA BEALLIANS	
	de de	1 - 3	- Let and a particular			
310.	General account of the Set			•••	Q	261
811.	Time occupied by each o	i tr	ie various stages	of	Settlement	
	operations The procedure followed; the	••	fra arriva	•••	•••	262
812.	The procedure followed; the	ne sw	rvey; attestation	•••	•••	ib.
313.	Distribution of the assessment Protective leases for wells	ent	***	•••	•••	263
314.	Protective leases for wells		•••	•••	•••	265
315.	Cost of the Settlement .	••		•••		ib
316.	Patwáris; classes from w	nich	the Patwari age	ncy	should be	
	drawn	••	•••	•••	•••	ib
317.	Kanungo agency .	• •	•••	***	•••	267
318.	Annual papers	••.		••	•••	ib
319.	System of alluvion and dilu	ivon	inquiry	•••		268
320.	The same continued; limit	of the	he <i>kacha</i> and <i>pack</i>	a ch	aks	ib.
321.	Rules for assessment of lan			•••	•••	269
322.	Jagir assignments of reven	ue;	general account	•••	•••	270
323.	Commutation money; sark	arda	8	•••	•••	271
324.	Land owned by jágírdárs		•••	•••		ib.
325 .	Statement of jágírs .		* 10117	•••	••	ib.
326.	Máfis; grants for the term					273
3 27.	Zaildars; arrangement of	zails	; size of zails ; m	iode	of appoint-	_ 、
		••	•••	•••	•••	275
328 .	List of zails in the district		•••	***	•••	276
329.	Zamindári ináms	••	•••	• • •	•••	278
330.	Notice of officers		•••			279

	CONTENTS.		xiii
Para.	SUBJECT,		Page.
	CHAPTER X THE RECORD OF CUSTOMS.		
3 31.	Contents of the Chapter	•••	281
	PART I.—Tribal Custom.		
332,	Only the customs of the agricultural tribes recorded		281
333.	Arrangement of the agricultural population by tribes and loc	ali-	
	ties for the purpose of attestation	•••	ib.
334.	Method of attestation	•••	282
335.	The questions; and the manner in which they were received	•••	283
336.	General remarks on the subject of customary law; danger		
	custom becoming crystallized too soon; or in a wrong form		ib.
387.	Customs must alter with changes in the condition of society	••• `	284
888.	In investigating a custom one should not look merely to instan	ces,	
	which may be exceptions, but to the expression of the tr	nbal	205
300	feeling	•••	285
339,	Value of the tribal codes now attested	***	ib.
340.	Instances of customs altering with the progress of society	***	286
341.	Neglect of the Mahomedan and Hindu law	, •••	ib.
342.	No clear distinction maintained between ancestral and acqu	ured	.,
0.40	property	•••	ib.
343.	No separate abstract of the customary law made	•••	ib.
	Analysis of the Codes of Tribal Custom SECTION I.—Family and Tribal Connection.		
344.	Who are termed relations (warisan) besides the agnates; wife's kindred?	the	287
345.		•••	ib.
0 20.		•••	•••
	SECTION II.—BETROTHAL.		
346.			287
347.	Who has the power of betrothal?	•••	288
348.	A 2	vhere	
	money is taken for the match; other Hindus. Rajpother Mahomedan tribes. By what formality does	uts;	
0.40	betrothal become binding	•••	ib.
349.	Priority in betrothal entitling to priority of marriage	•••	290
	Reasons for which a betrothal may be annulled	•••	ib.
351.	What may be recovered on account of breach of betrothal	•••	291
	SECTION III.—MARRIAGE.		
352		844	291
352 353	Degrees of relationship prohibited for marriage	• • • • • • • • • • • • • • • • • • • •	291 292
	Degrees of relationship prohibited for marriage Physical defects annulling a marriage	•••	

xiv Contents.

Tara.	Subject.		P_{c}	age.
355.	Relations of the wife with whom marriage is a	rohibited		293
356.	Re-marriage with a divorced wife	•••		ib.
357.	Fosterage	••		ib.
358.	Number of wives	•••	•••	ib.
359.	Age at which marriage takes place	•••	•••	ib.
360.	Whose consent is necessary for a valid marria	ge?		294
361.	Ceremonies of marriage; which of them	makes the	union	
	binding?	***	•••	ib.
362.	Grounds on which a woman may be divorced	• • •	***	ib.
363.	Formalities of divorce	•••		295
364.	Claim of the divorced wife against her husband	l	***	ib
365.	Divorce by the wife	•••	•••	ib,
366.	Dower	•••	***	ib.
367.	Karewa, or widow marriage	•••	•••	2 96
368.	Can mere cohabitation constitute a valid marri	age ?	•••	297
- "				
	SECTION IV GUARDIANSHIP ANI	MINORITY.		
		- 2 The cont	al at	
369.	Who is entitled to the guardianship of a mine	orr ine conti		298
	the land and the power of betrothal	the miner	***	
370.	Powers of the guardian over the property of	ine minor	***	$rac{ib}{298}$
371.	Who is entitled to the custody of a married w	oman r	•••	
372.	Effect of remarriage of a widow who is guard		••	300
373.	Liability of a minor for his father's debts	••	***	ib
374.	Is a woman always under tutelage?	••	•••	ib
	Same of the same of			
	CHONELL OF THE			
	SECTION V.—Succession	N.		
	Male lineal descendants.			
375.	The order of succession where there are sons a	and widows	•••	300
376.	Property how shared between sons; uterine	descent (pa		
Ü. U.	and chunda vand)	1	••	301
377.	No custom of preferring one son to the others		***	ib
378.	Property acquired by sons in a joint family	•••	•••	ib
0.0.				-
	Right of representation.			
379.	The right of representation in the case of son	s and grandso	ns	302
380.	The succession in such cases is per stirpes not	per capita	•••	ib
3 81.	Representation in the case of collaterals	• •••	•••	ib
001.	•			
	Widows.			
382.	Succession of the widow on failure of male iss	ue	•••	302
383.	The nature of the interest taken by the widow	7	• • •	308
384.	No distinction between joint widows on accoun	at of family,		304
385.	The effects of unchastity or remarriage on	the right	of the	
	widow	•••	•••	ib
	Daughters.			
386.	Circumstances under which daughters can in	herit; Maho	nedan	<u>.</u> .
	Rájputs; Hindu Jats; other tribes	**1	•••	304

CONTENTS. XV

Para.	Subject.		Page,
3 87.	Rights of unmarried daughters; and of a married daugh	tcr	
000	living with her father; ghar jawaie	•••	305
388.	Nature of the daughter's interest	•••	306
389.	Representation through daughters; succession to them	•••	ib.
	Parents.		
390.	Succession of parents	•••	306
991.	Nature of the interest taken by a mother	•••	307
	Brothers.		
392 .	Brothers; uterine and associated	•••	307
393.	Representation of brothers	•••	ib.
	Sisters and their issue.		
394.	Succession of sisters and their issue	•••	307
	Husband.		
395.	Succession of the husband	• • •	308
	The Stepson.		
396.	The stepson (pichlag)		308
	Ascetics.		
397,	and before the contract of the		309
001.	Effect of becoming an ascetic	•••	505
	SECTION VI.—ADOPTION.		
	Who may adopt?		
398.	Under what circumstances may adoption take place; adoption	of	0.4.0
399.	the daughter's son Adoption of a son where the natural heirs are disqualified	•••	310 311
400.	Adoption of two sons; disqualifications of the person adoptin		911
401.	Adoption by a widow		312
	Who may be adopted?		
402.	Who may be given in adoption	•••	312
403.		•••	313
404.	Degrees of relationship to which adoption should be confined	••*	ib.
	Formalities.		
405.	Formalities necessary for adoption		318
200.		•••	OTO
	Effects of adoption.		
406.	Succession of an adopted son to his natural father	•••	314
407.	Succession to the adoptive father	•••	ib
	Ghar Jawáie.		
408.	Associated son-in-law (ghar jawaie)		314

Para.	SUBJECT, SECTION VII.—BASTARDY.		Page.
409.	The issue of an unlawful marriage considered illegof such issue; children of a karewa marriage	gitimate ; clain	
		•••	314
	SECTION VIII.—WILLS AND LEGA	CIES.	
410.	Wills and legacies unknown amongst the agricult		315
	.•		
	SECTION IX.—SPECIAL PROPERTY OF	FEMALES.	
411.	Special property of females; succession to it	•••	. 316
	SECTION X.—GIFT.	,	
412.	Death-bed gifts to relations and in charity, &c.	168°	317
413.	Gift of a share of joint property	•••	22.
414.	What rights in the village go with a gift of land	•••	. ib.
415.	Dowry (jahez) given with a daughter		010
416.	Devolution of property acquired in this way		
417.	Control of dowry		. $ib.$
418.	Gifts to a daughter or sister, or to their chil	dren; who can	n.
419.	oppose such gifts		. <i>ib</i> .
420.	Gifts to strangers	, , ,	. 319
¥40.	Power of revoking a gift; if a son be subset the donor	quently born t	
	the donor	•••	. <i>ib</i> .
	7 0." B 44.02		
	SECTION XI.—PARTITION.		
421.	Partition between the members of a family whalive	ile the father i	
422.	Partition on behalf of a widow, daughter, &c., so		. 320
	interest in property	acceeding to a	a . 321
423.	Rights of the son who remains associated with I partition	is father afte	r
424.	Acquisitions by a father after partition	•••	. 322
	and a regular areas har stated		. <i>ib</i> .
	PART II—Local Custom.		
425.	The nature of local or agrarian customs		328
426.	Customs relating to alluvion and diluvion	•••	. 025 . ib.
4T	HE CUSTOMARY LAW OF ALLUVION AND DILUVIO		
	THE BANKS OF THE SATLEJ.	N IN VILLAGES	ALONG
427.	Method of making the inquiry into the custo and diluvion	ms of alluvion	a 324
	I Custom between villages on opposite sides of	f the Dina	<i>04</i> 1
428.			
±20.	General custom between villages on opposite side	s of the River	
429.	as to land coming by alluvion, avulsion, &c. Rights in islands	•••	0.07
130.	Rule for determining the Deep stream	***	327 ib
	··· ··································	***	Z (/).

	CONTENTS.		xvi
Para.	Subject.		Page
	II Custom between villages on the same side of the Rive	er.	
431.	Land re-appearing on the site of an old village		827
432 .	Rights in land thrown up in front of two adjoining villages	•••	ib
	III Custom between proprietors of the same village.		
433.	Rights of the village co-share s in land coming to the village	h v	
	alluvion, &c.		328
	IV.—Rights of tenants.		•
434.	Occupancy rights in land going by diluvion and re-appearing	•••	. 328
			-
	B.—THE WAJIB-UL-ARZ OR VILLAGE ADMINISTRATION PAP	ER.	
485.	Nature of the provisions of wajib-ul-arz	•••	329
436.	The former wajib ul-arz	***	• •
437. 438.	The new or revised wajib-ul-arz	•••	830
439.	Clauses 1 and 2; Government revenue and cesses	•••	ib.
440.	Clause 8; partition of holdings	•••	ib
XXV .	Clause 4; partition and management of the village com-	non	
441.	Clause 5; rights over the village site, atrifi	•••	ib
442.		•••	931
	poses : alluvion and diluvion	our-	000
443.	Clause 7; village officers	•••	832
444.	Clause 8; village expenses	· •••	ib.
445.	Clause 9; sayer	•••	<i>ib.</i> 333
446.	Clause 10; irrigation rights	•••	
447.	Clause 11; proprietors absent or out of possession	•••	ib.
148.	Clause 12; succession; pre-emption	•••	ib. 334
149.	Clause 13; the right of Government in Nazul prope	rf v	003
	quarries, &c		ib.
4 50.	Clause 14; assessment of lands gained by alluvion; of lar	sed	10.
	máfi, &c		ib.
451.	Clause 15; levy of fines		ib.
452.	Clause 16; the rights of cultivators	•••	335
4 53.	Clause 17; dues of village servants	•••	ib.
		•••	
	4		
No	APPENDICES.		D
_	I. Statistics of area, irrigation, general resources and assess		Page
	ments		iii
Πa		•	xxii
$\mathbf{II}b$	 Statistics of rent (continued), classified statement of tenants 	-	
***	at-will paying cash rents		XXV
III		•	
	ments made to determine the rates of yield of the	3	
	various crops, and the rates adopted in the produce	•	
***	estimates		XXXV
IA	from the first t	;	
	estimate		H

CONTENTS.

No.	SUBJECT.	Page,
	Statistics of transfer of land; sales since the Regular Settlement of 1850	lvii
V∂.	Statistics of transfer of land (continued); mortgages of land at the time of the Regular Settlement and now,	• • • •
37.	according to the Patwaris' papers	lx
¥ C.	Ditto ditto ; statistics derived from the records of Registration	lxix
VI.	Showing the distribution of land amongst the agricultural	IXIX
	tribes	1XXV
VII.	Statement showing the varieties of tenure held direct	
37TTT	from Government in the Ludhiána district	lxxix
TX	Statement of tenures not held direct from Government Government notifications regarding the Ludhiána Settle-	lxxxiii
	ment which have been issued from time to time	lxxxv
X.	Return of civil, revenue and other case work disposed of	IAAAV
	by the officials of the Ludhiana Settlement	lxxxix
XI.	Statement showing the expenditure from imperial and	
	provincial revenue up to 31st of December 1883 on the Settlement	xc iii
XII.	Note on the subject of the prices of agricultural produce in	xcili
	the Ludhiana district, with a comparative statement of	
	those prevailing for the last forty years	xerii
XIII,	Note on the cultivation of sugarcane and the manufacture	••
	of sugar in the Ludhiána district	cvii

From-J. Wilson, Esquire, Offg. Senior Secretary to Financial Commissioner, Punjab, To-The Offg. Junior Secretary to Government, Punjab.

I AM directed to submit herewith, for the orders of GovLieutenant-Colonel E. G.

Wace.

Submits Settlement
Report of Ludhiána.

Submits Settlement
Report of Ludhiána.

District by Mr. Thomas Gordon Walker.

This settlement was entirely conducted under the control of the Commissioner of Settlements and Agriculture, and it has therefore been judged unnecessary to ask for a review of it from the Commissioner of the Division.

- 2. The nucleus of the district was formed in 1835 by the Formation of the district. escheat of about 80 Jind villages on the death of Raja Sangat Singh without lineal heirs. With small exceptions the whole of the remaining district area consists either of the possessions of the Lahore Darbár on the left bank of the Sutlej which were annexed at the commencement of the First Sikh War, or of the territories of minor Chiefs, openly or secretly hostile to the protecting power, which were confiscated after that war had been concluded.
- As at present constituted the district consists of an Situation and physical oblong block of country on the south character. bank of the river Sutlei between Jullundur District and Native States. In addition to this there are a few detached villages or groups of villages lying further to the south entirely surrounded by the dominions of various Cis-Sutlej Chiefs. On the other hand, the continuity of the main block of the district by the river is broken by the intrusion of isolated Native villages and by a deep indentation of Native territory in the region which lies north-east of Malaudh. Taken as a whole the district has no physical features. It consists of a strip of low ground along the edge of the river which passes across a sandy ridge or bank of no great height into the ordinary plain country beyond. The area of the whole tract is only 1,378 square miles, so that in point of size the district is one of the smallest in the Punjab. But the soil is fertile and closely cultivated with valuable crops, the population is dense, and the annual land revenue more than eleven lakhs of rupees.

- The means of communication are unusually good. Communications and There are 125 miles of metalled road besides numerous good roads which are not metalled. The Sindh, Punjab and Delhi Railway crosses the district from south-east to north, and has several stations, including a very important one at Ludhiána city. A new line is also projected to join Ludhiana with Ferozepore and both with Karachi. The river Sutlej runs along the whole northern front of the district with thirteen ferries and a Railway bridge at Phillour. And the Sirhind Canal which passes through every tabail is navigable for boats from Rupar to Ferozepore. The district is also well supplied with markets. Ludhiana itself is the second commercial city of the Cis-Sutlej territory, and has a large and growing trade in cotton, wool, cloth, grain and seeds. Minor country towns of good trade are Jagraon, Raekot, Machiwara and Khanna. There is in short no difficulty in disposing of all sorts of agricultural produce, and many of the peasantry are as keen in trade as in agriculture.
- The total population of the district as given by the Population.

 Consus of 1881 is 618,835 souls. Mr. Walker calculates that the population properly called urban is not more than 60,000, leaving 558,835 souls directly or indirectly dependent upon agriculture. The cultivated area is 729,000 acres, and there are thus 1.3 acres cultivated per head of agricultural population. In particular parts of the district, however, such as the Ludhiana Pawadh and the Upper Dhaia of Samrala, there is barely one acre of cultivation per 'read. The holdings of the land-owners are larger than these figures might suggest. Mr. Walker calculates that every single Khewatdar has on the average in his own cultivation 6 acres in Samrala and Ludhiana and 8 acres in Jagraon.

By far the most important tribe in the district are the Jats, who number 222,665 souls, or about two-fifths of the whole rural population. About one-tenth of them are Muhammadan and the rest Hindu or Sikh. As usual the Muhammadans are inferior to their brethren, although both classes are of an excellent type. Indeed the Hindu Jats of the southern part of the district or Jangal country are rightly described by the Settlement Officer as some of the finest peasantry in India. Skilled and laborious agriculturists, they are also energetic

carriers, careful money-lenders, and experienced and wary traders. The minor agricultural tribes are the Rájpúts, Gújars, Aráins and Awáns. The first two of these are not of much account, the third are excellent market-gardeners, the fourth are extravagant and quarrelsome, but strenuous agriculturists and strict Muhammadans.

- The cultivated area is no less than 729,000 acres. or 83 per cent. of the entire area of the Agriculture. Fifteen per cent. is artificially irrigated from wells. The remainder is unirrigated at present, but a considerable acreage will probably be watered shortly from the Sirhind Canal. The total crop acreage is 780,084, so that about 51,000 scres per annum are double-cropped. The whole of this double-cropped land, with the exception of about 8,000 acres, is irrigated from wells. Thus, speaking roughly, it may be said that two acres of well land give rather more than three acres of crops in the year. The most common staples are wheat or wheat mixed with gram in the rabi, and maize, millets and pulses in the kharif; cotton occupies rather less than twenty thousand acres, and fodder crops are grown on nearly seventy thousand. The only other important crop is sugarcane, which is grown on 13,267 acres, of which nearly threequarters are in the Samiala Tabsil and almost all the remainder in Ludhiána. Practically there is no sugar grown at present in Jagraon, although the Sirhind Canal will soon work a change in this respect. The most usual system of husbandry is the two-year course common in most parts of the Punjab. But on the low laud of the Bet, along the sandy ridge which borders the upland, in tracts where sugar is grown, and perhaps elsewhere this course is variously modified to suit the local and other conditions of cultivation. Walker has given an excellent account of the agriculture of the whole district—concise and yet full of matter.
- 7. It is unnecessary to notice the fiscal history of the Fiscal history.

 district before 1850 when the first regular settlement was commenced. This settlement was completed in 1858, and the assessment as finally sanctioned by the Commissioner (Mr. Barnes) amounted to Rs. 9,58,781, which at the time of its introduction fell at the average rate of Re. 1-6-8 per agre cultivated. This settlement was supposed to be moderate in Ludhiana and Samrala, but rather severe in

Jagraon. It has, however, worked exceedingly well throughout the district, most parts of which were in a very prosperous condition when the present revision of settlement commenced. The improvement in agricultural resources which took place during the 30 years from 1850 to 1880 may be summarily stated thus:—

Increase in-

Cultivated acreage	•••			62,506
Irrigated acreage	•••	•••	•••	7,254
Number of wells		•••	•••	1,097
Population	•••	•••		91.113

The increase in population is the difference between the census results of 1855 and 1881. The numbers of the people have grown steadily during the period of which we have a record. but the percentage of increase appears to be diminishing. Cultivation has on the average increased by about 2,000 acres per annum. The whole increase in considerable, being not far short for 100 square miles. But as the cultivated area is now 83 per cent. of the entire area of the district, the capacity for further expansion cannot be great. The increase in the number of wells is large. It must be remembered that concurrently with this increase in resources taxation in the hape of cesses has increased by Rs. 9-13-4 per cent. on the revenue; and though the law assumes that these cesses are not contributed from the share of produce due to the State. yet as a matter of fact this new demand for additional payments does operate to diminish the power of the agriculturist to meet enhancements of the State's revenue.

8. The subject of prices is separately discussed by Mr. Prices. Walker in the XIIth Appendix to the present report. The rise in values, supported as it now is by Railway lines communicating both with Karáchi and with Bombay, has been great, and is fully taken advantage of by the agriculturists. Récent experience, however, has shown that some of the arguments and assumptions stated by the Settlement Officer require modification, and that though the rise which has taken place in prices may justify an enhancement in assessment, yet the enhancement would not be so great as 50 or 65 per cent., which is the rise assumed by Mr. Walker.

9. The produce estimate, which was based on the Total result of reassess- average prices of the 20 years ending ment. 1879 (which prices corresponded closely

See paragraph 213 of with those assumed in the recent settlements of the Mooltan and Delhi Divisions) indicated an assessment of Rs. 12,31,359. The revenue rates adopted showed an assessment of Rs. 11,25,697, while the amount actually assessed was Rs. 11,12,644, or an increase of 18 per cent. over the assessment actually in force in the last year of the regular settlement. This new assessment falls on cultivation at the rate of Rc. 1-8-5 per acre, or about 2 annas an acre (9 per cent.) more than the rate of the first regular settlement at the date of its introduction. The following table shows the incidence per acre cultivated of the regular settlement at its introduction and at its termination as compared with the new assessment. The results are given both for land revenue alone and for land revenue with cesses:—

<u> </u>				Rs.	Δ.	 Р,
{			Ry Land Revenue only		6	8
	Of regular	In 1860	By Land Revenue with casses	1	8	9
Average	settlement (In 1880	By Land Revenue only	1	4	1
per culti- vated acre.			By Land Revenue with cesses	1	7	8
j	Of new ass. At intro- essment. duction,		By Land Revenue only	1	8	5
		By Land Revenue with cesses	1	13	0	

After allowing for mass, zaildars, protective pattas and other minor deductions, the immediate gain from the new settlement is Rs. 1,18,187 per annum to Government and Rs. 25,391 to jagir revenue. These amounts will be increased by about Rs. 6,000 and Rs. 600 respectively as protective leases fall in.

10. Some brief remarks may conveniently be made on the results of the new assessment in each circle.

In the Samrala Bet cultivation had increased since last Paragraphs 219 to 225. settlement by only 2 per cent. and there is almost no irrigation (2 per cent. of the cultivated area); but both statistics and enquiries showed that the previous assessment was much below the half net assets standard. On the other hand, there is much debt and the land is fast passing into the hands of money-lenders. The increase of assessment was chiefly based on the great rise on prices, which for the crops which occupy about three-fourths of the area was found to be about 50 per cent. The rates of the former and present settlements may be compared as follows:—

Class of soil.	Revenue rate of last settlement	Revenue rate of present settlement
	per acre.	per acre.
	Rs. A. P.	Rs. A. P.
Irrigated	3 10 0	400
	(3 10 6)	3)
Dofasli	11437	2 10 0
	1 6 9 1	
	(1 6 9)	*
Ekfasli		1 8 0 with reduc-
	0 12 9	tions of 2 and
		for land re-
	A TOTAL PARTY	cently form-
	RAKE SELIK	
		ed.

The resulting assessment gives an increase of 12 per cent., and the average incidence of the new assessment is Rs. 2-5-0 per acre against the average incidence at last settlement of Rs. 2-2-0 per acre of cultivation. On the other side of the Cutlej the similar tract of land forming the Bet circle of the Nawashahr Tahsíl in the Jullundur District has been recently assessed at the following rates per acre:—

```
Irrigated ... Rs. 5-0 0 and Rs. 5-12-0
Dofasli ... ... 3-2-0
Ekfasli ... ... 2-0-0
Baráni ... 2-0-0 to Re. 1-0-0
```

and the average incidence of the new assessment is Rs. 2-3-0 per cultivated acre.

In the Eastern Bet of Tahsil Ludhiana the increase of cultivation was 12 per cent. and of irrigation 22 per cent., 5 per cent. of the total cultivated area being irrigated. There was a great im-

provement in the character of the irrigation, and the people were generally in good circumstances. The revenue rates adopted compare with those of the last settlement as follows:—

		. 			Reve	NUE RA	TE PER	ACRE	
CLASS OF SOIL.			Of last settlement.			Of this settlement.			
				Rt.	۸.	P.	Re.	Δ.	P
Irrigated	•••			2	10	0	3	12	Ú
Dofash	•••	•••	And the second	2	8	0	2	8	0
Ekfahli	•••	••• (6	3	1	7	0

The resulting assessment (Rs. 41,519) gave an increase of 20 per cent., and the average incidence of the new assessment is Re. 1-15-0 per acre of cultivation against Re. 1-11-0 the incidence of the previous settlement. These rates are lower than those sanctioned for the adjoining Samrála Bet and for the Nawashahr Bet across the river (already stated above), but the difference is justified by the difference in the value of the produce and the greater increase of revenue taken in this circle, as well as by the lower rainfall in this circle as compared with the Samrála Bet.

In the Western Bet of Tahsil Ludhiana the cultivated area has owing chiefly to the action of the river decreased by 5½ per cent., but under the diluvion rules the assessment has been correspondingly reduced. Irrigation has increased by 26 per cent. and has improved in character by the substitution of masonry wells for unlined wells. The irrigated area is 9 per cent. of the total cultivated area. The soil is inferior in quality to that of the Eastern Bet; the rainfall also is probably less; and the rates adopted are considerably lower, though a small part of the tract is peculiarly advantaged by its proximity to the Ludhiana market. The villages are on the whole prosperous, and some of them appear to have been under-assessed

at last settlement. The rates now adopted compare with those of last settlement as follows:—

				RE	VENU	e Ra	TE PE	R ACR	E
CLASS OF SOIL.			Of last sottle- ment.			Of this settle- ment.			
				Rs.	A.	P.	Rs.	Λ.	P.
Irrigated		•••	•••	2	5	7	3	12	U
Dofasli	• • •	•••		2	15	5	1	10	٥
Ekfasti	***				4	6	1	4	0

The resulting assessment (Rs. 35,535) gave an increase of 23 per cent., and the average incidence is Re. 1-6-0 per cultivated acre against the incidence of Re. 1-5-0 of last settlement. In the Phillour Tahsíl of the Jullundur District across the river the rates sanctioned at the recent settlement are as follows:—

Irrigated		R	. 4-8-0	Rs.	3-0-0
Dofasli	• • •	*** ,,	2-4-0		
Ekfasli	• • •	,,	1-S-0 t	o Re.	1-2-0

and the incidence of the resulting assessment is Rs. 2-4-0 per acre of cultivation. These rates are those of the Phillour Tahsil at large, the soil and agricultural advantages of which are much superior to those of this Bet tract.

The Bet of the Jagraon Tahsíl is a small and unimportant ant circle. Against an increase of 6 per cent. in cultivation and of 47 per cent. in irrigation (only 4 per cent. of the cultivated area is irrigated), an increase of 5 per cent. has been taken, the new assessment being Rs. 11,364. The average incidence per cultivated acre is Re. 1-2-0 against the incidence of Re. 1-3-0 at last settlement. As the circumstances of this tract are exceptional no suitable comparison can be made between the rates here sanctioned and those of the adjoining Phillour Tahsíl.

The Financial Commissioner would draw attention to the manner in which the average incidence of assessment falls as the distance from the Himalayas increases, i. e., as the rainfall decreases. Taking the several Bet circles in this order the average incidence is—

Circle.			Last settlement.		N_{ew} settlement.				
				\mathbf{R}	. A.	P.	Rs.	A.	r.
Bet	Samrála			2	2	0	2	5	Ø
••	Ludhiána,	East		1	11	0	1	15	0
"	,,	West	•••	1	5	0	1	6	0
"	Jagraon			1	3	0	1	2	0

This result is in general agreement with the comparative advantages of agriculture in each of these tracts.

The belt of sandy land which lies between the Sutlei alluvial (Bet) and the great southern Lower Dhaia Circle. plain (Upper Dhaia) of the district has Paragraphs 226 to 232. been assessed separately in the three taheils under the name of Lower Dhaia. In the Samrála Tahsíl the Lower Dhaia Circle consists partly of good alluvial lands and partly of poor sandy uplands classed together as belonging to the same villages. The cultivated area of the whole circle is the same as at last settlement, except for the area occupied by the Sirhind Canal, Irrigation has increased by 10 per cent. (the proportion of irrigation to cultivation being 7 per cent. for the Dhaia proper). The revenue rates adopted for the Bet portion of this circle were somewhat higher than those sanctioned for the adjoining Bet Circle, as the alluvial land was superior. To the Dhaia land proper the following rates were applied:-

Soil.				I	Rale	8
Dore.				per	ac	re.
				Rs.	A.	Ρ.
Cháhi		•••	•••	3	0	0
Rausli	•••	•••	•••	1	0	0
Bbur	•••	•••	•••	0	10	0

It is not easy to compare these rates with those of last settlement, as the previous assessment was much below the rates then framed, but the general result for this part of the tract is much the same as before. The new assessment for the whole circle (Rs. 28,154) gives an increase of 8 per cent. with an average incidence of Re. 1-2-0 against the former incidence of Re. 1 per cultivated acre.

In the Lower Dhaia Circle of Tahsíl Ludhiána also some of the alluvial Bet lands have been Paragraphs 261 to 264. included as belonging to villages having part of their area on the sandy high land or Dhaia proper. In the Bet portion of the circle cultivation had increased by 12 per cent. and irrigation had more than doubled, the irrigated area being now 13 per cent. of the total cultivation; the character of the irrigation had also improved. In the Dhaia portion cultivation had only increased by 2 per cent. and irrigation had decreased by 6 per cent. and now comprise 7 per cent. of the total cultivated area. With the exception of a few thriftless villages the tract is well off, and while on the one hand the sandy Dhaia lands are poor. on the other the villages are favourably situated as regards markets for their produce. The rates adopted compare as follows with those of last settlement, but it must be remembered that the assessment of last settlement was 20 per cent. below rates :--

	विद्यापन जगते				EVE:		RATE CRE.	PER
Class	OF SOIL	•			f las		Of t	
Bet Cháhi		•••	•••	Rs.	А. 11	P. 0	Rs. A.	
" Dofasli			•••	2	2	6	2 4	-
,, Ekfasli	•••	•••	•••	ī	4	ő	1 4	-
Dhaia Cháhi Niai	•••	•••		3	9	0	3 8	0
", ", Kbális	•••	•••		2	7	0	2 8	0
" Rausli	•••	•••	•••	1	2	0	1 2	. 0
				0	14	0	0 12	()

The Settlement Officer was instructed to assess slightly above these rates, so as to give an increase of 10 per cent. on the former assessment, and the new assessment (Rs. 80,100) gave this increase. The incidence of the revenue is now about Re. 1-5-0 against the incidence of Re. 1-4-0 at the previous settlement.

In the Lower Dhaia Circle of Tahsil Jagraon cultivation had increased by 8 per cent. and irriga. Paragraphs 294 to 298. tion by 38 per cent. In other respect the circle was very similar to the Lower Dhaia of the Ludhiána Tahsíl, and the same rates were sanctioned in both circles except that the rate for Bet dofasli was made Re. 1-10-0 in Jagraon as against Rs., 2-4-0 in Ludhiána. The assessment of the previous settlement had been 15 per cent, below the rates, which were the same here as in Ludhiána. new assessment (Rs. 67,012) gave an increase of 7 per cent, the average incidence being about Re. 1 per acre, or much the same as at last settlement. A comparison of these circles with the Dhaia Bet and Retli Circles in the adjoining Nawashahr Tahsil of the Jullundur District on the other side of the river has been suggested. Of the Bet lands of the two districts a comparison has already been made, so that the present remarks may be confined to the Dhaia lands proper. The rates sanctioned at the recent settlements are as follows:--

Ludhiána District.

	REVENUE RATE PER ACES.									
CLASS OF SOIL.	Tabsíl Samrála.	Tahsíl Ludhiána.	Tahsil Jagraon.							
	Rs. A. P.	Rs. A. P.	Rs. A. P.							
Niai Cháhi	8 0 0	3 8 0	3 8 0							
Khális Cháhi	3 0 0	2 8 0	280							
Rausli	100	1 2 0	1 2 0							
Bhur	0 10 0	0 12 0	0 12 0							
Increase of new assessment	8 per cent.	10 per cent.	7 per cent.							

(12)

Jullundur District.

				Reven	NUE RAT	E PER ACRE.
	CLASS OF SOIL	••		Nawas Dhaia		Nawashahr Retli.
				Rs.	A. P.	Rs. A. P.
Irrigated d		•••		4 1	2 0	4 5 0
Irrigated e	ekfasli	•••	(T)	3	4 0	2 14 0
Unirrigate	ed 1st class		Ċ	i 	2 0	1 6 0
Do.	2nd class		114	1	4 0	1 1 0
Do.	3rd class				0 0	0 12 0
Increase o	f new assessmen	at .		12 per	cent.	15 per cent.

The Jullundur rates are thus much higher than those of the Ludhiána District; the truth being that the comparison has no better foundation than the sandy nature of the soils in each circle. In all other respects the Jullundur circles are far superior, being naturally more fertile and having a better and more copious rainfall.

12. The remainder of the district may be described generally as a tract of good loam, well cultivated and irrigated, and inhabited by a thrifty, industrious and prosperous population. The belt of land lying south of the sandy Lower Dhaia tract has been formed in each tahsil into an Upper Dhaia Assessment Circle. In the Samrála Upper Dhaia there was an increase of 7 per cent. in

cultivation and of 4 per cent. in irrigation, 42 per cent. of the total cultivated area being irrigated. The tract has a good soil and a steady average rainfall of 27 inches; it is highly irrigated, and cultivated for the most part by thrifty agriculturists, who are unusually free of debt, and has greatly benefited from the rise of prices and from improved markets following on the completion of railway communications with Southern India. The rates sanctioned compare as follows with those of the former settlement, but it must be remembered that the assessment actually imposed at that settlement was 10 per cent. below that given by the rates:—

			€	172130 ₁		Rev	ENU	e R	ATE P	er 1	CRE
		Soil.					f la e me		O	f th eme	
					P	Rs.	A.	P.	Rs.	A.	P.
Cháhi Niai	•••	•••				6	12	3	4	12	0
Cháhi Khális	•••	•••	ोटिक सन्दर्भ	্ৰ গাঁৱ মূল সমূল		2	8	10	3	8	ŋ
Rausli	• • •	•••	•••	•••	•••	1	6	8	1	6	0
Bhur	***	***	•••	•••	•••	O	14	6	0	14	Û

These rates would have given an increase of 24 per cent., which was considered rather high, and the Settlement Officer was instructed not to let his actual assessments go above a 20 per cent. increase. The assessment actually imposed (Rs. 2,46,293) gives an increase of 19 per cent. with an average incidence of Rs. 2-5-0 per cultivated acre, the incidence of the previous assessment having been Rs. 2-1-0

Paragraphs 265 to 281. at the time it was made. In the Ludhiána Tahsíl the three circles, Upper Dhaia, Pawádh and Tihára, are all very similar in character to

the Upper Dhaia Circle of Samrála, and may be discussed together. The increase of cultivation in these three circles has been 6, 16 and 8 per cent. respectively. The proportion of irrigation to total cultivation is respectively 22, 29 and 15 per cent. As compared with the previous settlement, there is no increase of irrigation in the Upper Dhaia and Tihára Circles, but the character of the irrigation has much improved, and in the Pawádh Circle irrigation has increased by 21 per cent. All three circles are in a prosperous condition, and the thrifty cultivators have reaped the full advantage of the rise in prices. The rates sanctioned at the present settlement are as follows:—

		P	REVENUE RATE PER ACRE.									
8	oit.	,	Upper Dhaia	Pawadh,	Tihára.							
			Rs. A. P.	Rs. A. P.	Rs. A. P.							
Cháhi Niai	***	•	1 8 0	4 2 0	4 0 0							
Cháhi Khális		•••	3 4 0	3 0 0	2 12 0							
Rausli	•••	•••	1 6 0	1 4 0	1 4 0							
Bhur	•••	***	0 14 0	0 13 0	0 12 0							

The difference of rates is mainly caused by the increasing depth of the wells and the decreasing rainfall away from the rivers. Generally speaking they correspond in this respect with those of last settlement and are pitched somewhat lower, but the assessments actually imposed at last settlement were considerably lower than those which would have been given by the rates. The assessments now made give an increase of 17 per cent. in the Upper Dhaia (Rs. 1,70,639), of 22 per

cent. in the Pawadh (Rs. 54,360), and of 20 per cent. in the Tihara (Rs. 95,996), and the average incidence per acre compares as follows with that of last settlement:—

Incidence per acre.			Upper Dhaia.			Pawádh.				Tih ira .		
		Rs.	A.	P.	Re.	A.	P.	Rs.	A.	Р.		
Of last settlement		1	11	0	1	14	0	1	6	0		
Of present settlement	•••	1	14	0	2	0	0	1	8	0		

The Upper Dhaia of Tahsil Jagraon is similar to those of the other tahsils in the character of the soil and of the population, but inferior to them in having a decidedly lower rainfall, and consequently the rates adopted are lower. They compare as follows with those of the previous settlement, but here again the actual assessment of last settlement was much below that given by the sanctioned rates:—

			बद्यपं	RE RE	VENT	E RA	TE PER ACRE
	Soil.			Of, last me		le-	Of this settle- ment.
				Rs.	Α.	Р.	Rs. A. P.
Cháhi Niai	***	***		3	10	10	3 12 0
Cháhi Kháfis	•••	•••		2	5	5	2 8 0
Rausli	•4•	•••		1	5	2	1 3 0
Bhur	•••	***		1	0	8	0 12 0

The increase of cultivation was 12 per cent. and of irrigation 13 per cent., 8 per cent. of the cultivated area being now irrigated by wells. The new assessment (Rs 2,01,415) gave an increase of 20 per cent., and the average incidence is Re. 1-5-0 per acre against the former incidence of Re. 1-3-0.

A comparison may be made between these upland tracts of the Ludhiána District and the corresponding upland parts of the Nawashahr, Phillour and Nakodar Tahsíls of the Jullundur District to the north which have been recently settled. In those tahsíls the soil is on the whole better and moister, the rainfall more abundant, and the spring level nearer the surface than in the corresponding tract of Ludhiána, and the revenue rates adopted are correspondingly higher, as will be seen from the following statement:—

		THE YEAR	214		24						
				Reve	NUE RA	TE !	PER A	CBE.			
Soil.		Naw D	asha bak.	brit.	Phi	llou		Ne	kod	ar M	nizki,
		सन्दर्भ Re.	A.	नग P.	Rs,	A.	P.		Ra.	A.	Р.
Irrigated dofasli	•••	5	4	0	4	8	,O	1		0	•
îrrigated ekfasli	•••	3	8	0	8	0	0	}	•	U	0
Unirrigated 1st class	•••	ı	12	0	1	8	0		1	6	0
Do. 2nd class	•••	1	8	0	1	2	0	1	0	14	0
Do. 3rd class	•••	10	3 0	0	0	12	0	1	·	••	v
Average incidence	•••	3		5 0	2	6	0		2	1	0
Increase	•••	20	per	cent.	15	per	cent.		19	per	cent.

The Jangal Circle of Tahsíl Ludhiána consists chiefly of detached portions of British territory surrounded by Native States, and the ites cannot well be compared with those of neighbouring disicts. There is almost no irrigation owing to the great depth water. Cultivation has increased by 18 per cent. and popution by 41 per cent., and the condition of the people is experionally prosperous. The improvement of communications ad consequent rise of prices is even more marked here than the rest of the district. The rates sanctioned compare as bllows with those of last settlement:—

				REVENUB RA	TE PER ACRE
		Sort.		Of last settlement,	Of this settlement.
				Rs. A. P.	Rs. A. P.
rigated	***	•••	11. 11. 5 and		1 6 0
usli	•••		lie-Section	0 11 0	0 11 0
ıtır	•••		स्टापंब हुई	9 0 8 0	080

It the assessment actually imposed at last settlement was uch below that given by the sanctioned rates. At this setement also, while the above rates would have given an crease of 39 per cent, the actual enhancement was resicted to 33 per cent, and the average incidence per cultited acre is now Re. 0-10-8 against the former incidence of e, 0-8-11.

13. It is difficult in a brief review such as the present deneral remarks on the to do justice to the many circumstances which influenced the Settlement Officer fixing individual rates; but the Financial Commissioner usts that the above remarks will sufficiently show that the

assessment as a whole and in its principal details was made with due regard to the general policy of Government, and that it now deserves final approval. Great care has been taken to avoid any unnecessary disturbance of the rates and results of the previous settlement. In almost all instances the rates are little changed, and the gross increases taken represent a very moderate estimate of what is due to the combined results of increased cultivation and increased prices. Colonel Wace has recently marched through the district and saw nothing which leads him to think that the people after three years' experience of the new assessments are otherwise than well satisfied with their moderation. He also believes that the respective merits of the several villages have been appreciated in a manner which gave much satisfaction to the persons concerned, and inside each village the distribution on holdings also has been very carefully adjusted in accordance with the circumstances and present wishes of the owners.

- Security from drought. Show that the district as a whole is fairly secure from drought severe enough to call at any time for measures of general relief. Even the outlying villages of the Jangal tract, with their comparatively small rainfall, are now practically secured by the possibility of irrigation from the Sirhind Canal. The account giver in paragraph 123 of the report of the effects of protracted drought upon the different parts of the district will be a useful guide to the District Officer in determining whether in exceptional cases it is necessary to act upon the general instructions regarding suspension of revenue in bad seasons.
- 15. The remaining matters connected with the settlement may be very briefly disposed of.
 The new system of alluvion and diluvion
 enquiry now introduced is described on pages 268-9 of the
 present report. Practically the chak system has been maintained, but provision has been made for alterations in the
 chak boundaries. Within the chak all culturable waste and
 new cultivation will be assessed at acreage rates fixed beforehand, which in the case of cultivation begin low and grow to
 their maximum in four years. Lieutenant-Colonel Wace
 thinks it would have been better if the raising of the rates

had been left to depend on the cultivation of the superior crops, as has been arranged for the opposite bank of the Sutlej in Jullundur and Hoshiarpur. The Financial Commissioner also trusts that the Deputy Commissioner will pay constant attention to the remarks as to the Patwari agency at page 267 of the present report. Few things are more injurious to the proper revenue administration of a district than the formation of strong cliques and family circles among the Patwaris and Kanungos. Money-lending and trading Patwaris are equally objectionable and should be repressed with some vigour.

The sanction of Government is now required for the new assessment and cesses and for Orders required. the new record of rights. The cesses are enumerated at page 258 of the present report and amount to Rs. 18-15-4 per cent, on the land revenue. Out of this Rs. 10-13-4 per cent. is the local rate assessed under Act XX of 1883, and therefore requires no further order. remaining amount of Rs. 8-2-0 per cent. is for payment of the Lambardári and Patwári services. The Financial Commissioner considers that the Patwari cess has been assessed too low, the rate being only Rs. 3-2-0 per cent. The result is shown in the rates of the Patwaris' pay (see page 266), which in no case exceed Rs. 12 per month, and average little more than Rs. 9. It is not probable that these low rates of pay can be maintained, and I am therefore to recommend that in sanctioning the settlement it be expressly stipulated that the rate of the Patwari cess will be raised as may hereafter be found necessary. He will address Government on this subject very shortly. As to the term of settlement the new assessments were given out for thirty years, and the same period has been fixed in Jullandur and Hoshiárpur. There appears to be no necessity for any longer sanction. Mr. Walker indeed recommends a sanction for fifty Paragraph 308, years on the grounds that there is little room for expansion of cultivation, while the rise in prices has been discounted in the new assessment. The Financial Comm ssioner is not in favour of sanctioning the assessment for ailonger period than thirty years. The condition of the alluvial tracts of the Sutlej is liable to considerable change. And as regards both these tracts and the adjoining sandy uplands (described in the report as Lower Dhaia) Lieutenant-Colonel Wace does not feel the same confidence as to their future prosperity as can safely be entertained in regard to the rest of the district. Moreover, in the Jugraon Tahsil and in part of the Ludhiana Tahsil the conditions of agriculture will probably be materially changed by the spread of irrigation from the Sirhind Canal. And, finally, we are not able to estimate with any certainty the course of trade and prices during the next few years. The connection of the local trade with the seaports of India is an entirely new departure of quite recent date, the full results of which, mixed up as they are with the silver question, cannot at present be For all these reasons the Financial Commissioner prefers to adhere to the present system of thirty year leases, leaving it to the administration of thirty years hence to decide whether on the facts then existing the leases can suitably be continued without revision. The new assessment runs in the case of the Samrala Tahsil from kharif 1881, and in the case of the rest of the district from kharff 1882.

- 17. Work on the revised settlement was started on the 1st October 1878, but the full settle-Settlement operations and financial results. ment establishment did not join until the end of that year. The settlement was practically complete by January 1883, and almost the whole of the establishment were transferred to Umballa before the following June. work thus lasted about 4% years; but if deductions be made on account of the census and other matters; the real time occupied was not much more than four years. This expedition compares well with the results in most recent settlements. The net cost of the operations was Rs. 3,60,766, and the initial annual gain to the land revenue of Government was Thus the whole expense of settlement will be Rs. 1,18,187. recovered in about three years, so that the financial result is extremely profitable,
- 18. From first to last the settlement was conducted by

 Mr. Walker, whose management of it
 appears to the Financial Commissioner
 to exhibit great industry and good judgment. His assessment
 work is of exceptional merit, and the Patwari papers filed
 during the past three years are exceptionally good—a result
 which is of itself sufficient testimony to Mr. Waiker's success

in his record work. Mr. Walker has also furnished the present report, which is an excellent specimen of its class. Its length which is considerable, might have been curtailed by the abbreviation or omission of matter which has since been re-published as Volume V of the Customary Law Series, nad the assessment chapter (No. VIII) might have been consolidated with advantage. But as a whole the report seems to the Financial Commissioner to be unusually well adapted to fulfil its main purpose of furnishing a Revenue Manual for the district administration. It is particularly commendable for its accumulation of important or interesing facts, its conciseness of language, its absence of theorizing, and it exhibits a knowledge of the people greater than our officers usually possess, which could have been obtained only by very close and sympathetic observation. The village note-books also have been written up to date year by year since settlement operations concluded under arrangements which Mr. Walker initiated. For all these reasons, the Financial Commissioner commends Mr. Walker's services to Government as worthy of very special commendation. Of the officers employed under him, Mr. Walker mentions Extra Assistant Settlement Officers Chiraniít Lál and Ahmad Bakhsh; also Superintendents Ishar Das and Jodh Singh. Of these, Chiranift Lal and Ishar Das have since died. To the other two, viz., Extra Assistant Commissioner Ahmad Bakhsh and Tahsildar Jodh Singh, the Financial Commissioner hopes that suitable acknowledgments of their services may be conveyed.

Proceedings of the Hon'ble the Lieutenear-Governor of the Punjab in the Revenue and Agricultural Department (Revenue), No. 113, dated 25th April 1889.

READ-

The Final Report of the Revised Regular Settlement of the Ludhiána District by Mr. T. Gordon Walker, submitted with letter No. 110, dated 4th February 1886, from the Senior Secretary to the Financial Commissioner, Punjab.

REMARKS.—The Ludhiána District, including as it does an area of only 1,378 square miles, is the smallest but three of the 31 districts of the Punjab, but stands sixth in the amount of its total land revenue assessment. It consists in the main of a tract 24 miles deep lying for 60 miles along the south bank of the Sutlej. Patiála territory juts far into it at one place, and villages belonging to that State lie embedded

- in it. On the other hand, there are groups of outlying British villages in the Native territories to the south. In the body of the district the rainfall averages from about 30 inches in the north-east to 20 inches in the south-west; in the outlying villages to the south it is less, for here, as in the Punjab generally, the amount of the rainfall diminishes from north to south and from east to west. Immediately to the south of the Sutlej is a lowlying alluvial tract of recently formed land known as the Bet, which is some five or six miles broad in the eastern half of the district. Its southern boundary is a ridge of high land under which flowed a century ago the Sutlei and now flows a stream called the Budha Nulla. western half of the district the Sutlej gradually approaches this ridge, until finally the Bet disappears. South of this ridge stretches a plain, gently sloping from north-east to south west, and unbroken save by a few sand ridges. composition of the soil clay predominates to the east of the district and sand to the west. The district generally is healthy; but in the Bet and along the Budha Nulla the population suffers terribly from fever. These are three tahsils,— Samrála to the east, Jagraon to the west, and Ludhiána in the centre.
- 2. With the exception of the Bet, the district is well suited to be the home of a healthy, hard-working agricultural population. One-third of its inhabitants are Jats, and placed here under conditions eminently favourable to the development of their good qualities, the Hindu Jats of Ludhiana, who own 62 per cent. of the area of the district, are the very ideal of peasant proprietors, hard-working, thrifty and, where the land does not demand the agriculturists' unceasing labour, enterprising carriers and traders. The Jats' one fault is quarrelsomeness, which has developed into litigiousness: they seem, however, from Mr. Walker's remarks in paragraph 105 to be able to work together where their interests are concerned in so doing. Muhammadan Rájpúts own 10 per cent. of the land, and in their favour little can be said; but it may be urged as some excuse for their failings that, as map No. III shows, their villages are chiefly in the unhealthy lowlying lands, where fever is continually weakening the race. The Gujars and the Arains own respectively 7 and 3 per cent. of the district lands. The former, who live mainly in the

Bet, are poor cultivators, though better than the Rájpúts; the latter are extremely hard-working, but somewhat dull. In religion the population is thus divided:—

Hindu $44\frac{1}{2}$ per cent. Sikh ... $20\frac{1}{4}$,, Muhammadan ... $34\frac{1}{2}$,, Others ... $\frac{1}{2}$,,

The Sikhs are to be found mainly in the west of the district and in the outlying villages to the south.

The density of the population is considerable, there being 450 persons to the square mile of total area, and 543 persons (and in certain tracts 600, 630 and 660 persons) to the square mile of cultivated area. Nevertheless the state of the agricultural population generally is one of considerable comfort: their wants are few and are well supplied. The present state of comfort and prosperity is said to be entirely the growth of recent years. Markets and the means of communication, both by road, rail and canal, are good. River traffic has practically ceased.

After forming under Mughal rule a part of the Sirhind Division, this district was later the scene of many of the struggles of the rising Sikh against the decaying Sirhind fell in 1,63 and for the rest of Muhammadan power. the 18th century the district in the main enjoyed peace and prosperity under the rule of various minor Chiefs. the present century Maharaja Ranjít Singh commenced a policy of interference with the Cis-Sutlej States, the necessity of preventing which first brought our troops to Ludhiana in 1809. In 1835, 80 villages became British territory owing to extinction of the direct line of the Jind Rajas, and the struggle of the first Sikh War resulted in the formation of the present district by annexations from open and secret enemies and by an extension of more direct British authority over various minor Chiefs. In the Mutiny the rabble of Ludhiána city and Muhammadan Gújars of the Bet alone gave trouble: the Jats were steadfastly loyal. In 1872 the district was the scene of an abortive Kúka outbreak. number of Kúkás now in the district is uncertain, as many of them think it wise to refrain from an open confession of their faith.

- Mr. Walker's description of the agriculture of the district has been accorded deserved praise by the Financial Commissioner. It will suffice here to note that wheat (16 per cent.) and wheat mixed with gram (23 per cent.) make up the bulk of the total 56 per cent. of the yearly crops which are grown in the spring, while the chief items in the remaining 44 per cent. of the autumn harvest are maize (7 per cent.), pulses (12 per cent.), fodder crops (14 per cent.). Sugarcane is an important crop, especially in the Samrála Tabsíl, and, though occupying at settlement only 13,213 acres, represented a total annual crop value of some Rs. 12,00,000. The more valuable crops—sugarcane, maize, cotton and wheat -are most grown in the east of the district; to the west and in the outlying villages barley takes the place of wheat, and inferior crops, pulses and millets are more largely cultivated. The irrigated cultivation at the time of settlement was 15 per cent. of the total cultivation. The irrigation was then entirely from wells, ordinarily worked with the rope and The Persian wheel is used in only one or two leather bucket. villages. Irrigation from the Sirhind Canal has commenced since the close of settlement operations; it will be referred to hereafter. The average size of the owner's holdings is estimated by Mr. Walker at 6 acres in Samrála and Ludhiána and 8 acres in Jagraon. Cultivation must apparently have nearly reached its limit, but the opening of the Sirhind Canal may enable population to still increase.
- The revenue management of the Sikh rulers aimed at taking from the cultivator the utmost that could be exacted. In the small tract which came under British rule in 1835 a summary settlement was made in 1839, and in 1842 this was succeeded by a 20 years' settlement. In the rest of the district a summary settlement was in force from 1846 to 1849, and in 1850 the first regular settlement was begun. By 1853 the new assessments had been announced. The 1842 assessments were at the same time revised, reductions found necessary being given at once. The regular settlement was conducted by Mr. Davidson. His assessments were based on rates of rent estimated for each crop and each description of soil in a somewhat elaborate classification. For crops on which the rents had been taken in kind produce estimates These are stated by the present Settlement were framed.

Officer to have been much too low for the irrigated, though correct for the unirrigated, lands. Mr. Davidson's figures showed a final assessment amounting to 58 per cent. of the estimated rental. Some reductions were subsequently given by the Commissioner, Mr. Barnes, chiefly in the Jagraon Tahsíl. The final result of the regular settlement was a reduction of 11 per cent. from the total of the previous assessment of the Government villages and of the jagirdárs' estimates of their collections in the assigned villages.

- Under this settlement the district, taken as a whole, has prospered exceedingly, and fortunately the character of the bulk of the agricultural population was such that the new wealth which they gained from the assessment of a fixed and moderate Government demand on the land and from the great rise in prices which occurred in the years 1860 to 1864 was not to them, as to less thrifty tribes it has too often been, an occasion of temporary extravagance and permanent indebtedness. The exceptions to this prosperity are mainly to be found, firstly, in the Samrala Bet, where the sugarcane cultivation which, though yielding large profits, needs an expenditure of capital and somewhat delayed returns has brought the unthrifty Muhammadans into bondage to the money-lending classes; and, secondly, in those villages which lying along the old high bank of the river contain much sandy soil of a very inferior kind.
 - 7. The instructions for the re-assessment of the district

Letter from Under-Secretary to the Government of India, Department of Revenue, Agriculture and Commerce, to Secretary 10 Government, Punjab, No. 25, dated 14th January 1879

were approved by the Government of India in January 1879 and were the same as in the re-settlements of the Delhi and Mooltan Divisions.

The estimated gain to Government from the proposed re-assessment was Rs. 1,30,000 per annum and to the jágírdárs Rs. 20,000. Mr. T. G. Walker was appointed to the charge of the settlement and work was commenced at the end of 1878. Mr. Walker continued throughout in charge of the operations.

8. It was found necessary to recast the assessment circles, as those of the last settlement were largely based on artificial pargana divisions. The low-lying lands along the

Sutlej now constitute the Bet Circles. In the Ludhiána Tahsíl the Bet is again sub-divided into the Kacha Bet, subject to annual inundation, and the Pakka Bet Circles, being respectively the eastern and western halves of the Bet. The poor sandy tract to the immediate south of the high bank forms in each tahsíl the Lower Dhaia Circle. The Upper Dhaia Circles of Samrála and Jagraon Tahsíls and the Upper Dhaia, Pawadh and Tihára Circles of the Ludhiána Tahsíl include all the remainder of the district with the exception of the outlying villages, which form the Jangal Circle.

The classification of soils was also simplified. In the Bet the recognized classes are—

- (i) irrigated from wells;
- (ii) do-fasli, land which regularly in its turn bears two crops;
- (iii) ek-fasli, the outlying land, which seldom or never bears more than one crop.

In the rest of the district the unirrigated land was divided into two classes, "Rousli" or loam, and "Bhur "or sand, and the well lands were also divided into "Niai" and "Khális." The Niai well lands are those which, lying near the village site, receive most manure and most frequently bear two crops in the year.

9. The district is pre-eminently one of small cultivating proprietors. Only 21 per cent. of the land is cultivated by tenants, and of this 21 per cent. only one-third is held by tenants-at-will destitute of proprietary or occupancy rights in other lands.

Competition cash rents are paid for only 5 per cent. of the cultivated area; ordinary rents throughout the upland tracts are given by the Settlement Officer as from Rs. 9-8 to Rs. 14 per acre for irrigated land, Rs. 4-12 to Rs. 7 per acre for unirrigated land of ordinary quality, and as low as Rs. 2-6 per acre tor the poorer soils. But rents paid for such a small percentage of the land are indeed useful as a check upon an assessment, but are quite insufficient for its basis. This has to be found in districts circumstanced like Ludhiana in an estimate of the produce and of the value of the share taken by the owners when rents are paid in kind, and above all in a

review of the working of the expired settlement and of the increase during its currency of the resources of the district. Mr. Walker's produce estimate was very carefully framed and was based on 969 experiments extending over 3,192 acres. The produce was as usual valued at the average prices of 20 years, and the resulting estimate of that half share of the rental which constitutes the Government standard of assessment amounted to Rs. 12,31,359 for the whole district.

10. The Settlement Officer's reports on the revenue rates which he proposed to adopt were submitted for orders to Sir James Lyall in his then office of Financial Commissioner, and with a very few changes, chiefly in the direction of reducing the rates on well lands, the Settlement Officer's proposals were accepted. The sanctioned rates which have been used in the assessment are per acre as follows:—

			BET CIRCLES.		
			Irrigated. Rs. A. P.	Do-fasli. Rs. A. P.	Ek-fasli. Rs. A. P.
Samrála .		•••	4 0 4 0	2 10 0	1 8 0
Ludhiána-			the following		
Kacha Be	t		3 12 0	2 12 0	1 12 0
Pakka Be	t I	•••	3 12 0	280	1 7 0
	II		3 12 0	1 10 0	1 4 0
T	••	•••	3 12 0	2 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	BET	LAND	OS OF LOWER DILA	IA CIRCLES.	
			Irrigated.	Do-fitsli.	Ek fasti.
			Rs. A. P.	Rs. A. P.	Rs. A. P.
Samrála .			4 8 0	3 0 0	1 12 0
T 11 12			3 12 0	240	1 4 0
T	•••	•••	3 12 0	1 10 0	1 4 0
		L	OWER DHAIA LAN	Ds.	
			Chahi.	Rousli.	Bhur.

			<u>.</u>					_				
			Rs.	liai. A	_	Khi Rs.			Rs.	Α.	p.	Rs. A. P
Samrála Ludbiána		•••	8	0	0	3 2	0	0		0	0	0 10 0
7	•••	•••				2	-	-	ì		0	0 12 0

UPLAND CIRCLES.

		Chahi.			Ros	u sli		Bh	ur.	
p d.		Nia Rs. A. 4 12	P.		ális. A, P. B 0		A. 6		Rs. A	
Samiála Ludhiána—	***	49 1.∻	U	J	6 0	•	Ü	Ü	•	
Upper, Dhaia		4 8	0	3	4 0	1	6	0	0 1	4 0
Pawadh		4 2		3 (0 0	1	4	0	0 1	3 0
Tihára	•••	4 0		2 1	2 0	1	4	O	0 1	2 0
Jagraon	•••	3 12	0	2	8 0	1	3	0	0 1	2 0

JANGAL CIBCLE.

Wen lands.	Rousli.	Bhur.
Rs. A. P.	Rs. A. P.	Rs. A. P.
1 6 0	0_11_0_	080

11. The application of these sanctioned rates would have yielded a total assessment of Rs. 11,25,697. The total of the village assessments actually amounced was Rs. 11,12,644, or, after deducting the nominal assessment on revenue-free lands, Rs. 10,91,915, an increase of 18 per cent, on the previous demand of Rs. 9,25,677. Its incidence on the cultivated acre is Rc. 1-8-5; that of the last settlement at the time of its introduction was Rc. 1-6-8.

This increase is supported by an increase since last settlement of 62,506 acres, or 8 per cent. in the cultivated area, of 7,254 acres in the area irrigated from wells, of 1,007 in the number of wells, and of 91,113 in the total population between 1855 and 1881. . The chief reason which now justifies an increased assessment is to be found in the rise of prices. The former assessment was made on the basis of the prices immediately before 1850, which were much higher than those which prevailed in the following years up to 1860, and which supported the expired settlement during the first years of its currency. But even starting from the prices at which the former Settlement Officer valued the produce when framing his assessments, the present Settlement Officer found that a rise of 25 to 33 per cent. had occurred, while when the comparison was made between the periods 1840-1859 and 1860-1879 the increase in prices was found to be from 50 to 65 per cent.

The Financial Commissioner remarks in his review that recent experience has shown that some of the arguments and assumptions of the Settlement Officer require modification, and that though the rise which has taken place in prices may justify an enhancement in assessment, yet this enhancement would not be so great as 50 or 65 per cent. The rise in prices reported by Mr. Kensington, the Settlement Officer of the adjoining tract of North Umballa, on a comparison of the 15 years 1846 to 1860 with the 25 years 1861 to 1885 was 59 to 66 per cent. Mr. Walker, then, does not appear to have over-estimated the rise, but the gradual attainment by the people of a higher level of living, the reduction of the standard of assessment from two-thirds to one-half the owner's net assets, and the serious increase in cesses by nearly an additional 10 per cent. on the revenue, must necessarily be weighed against the rise in prices.

It would seem, too, that the eastern part of the district has not benefited so largely from this rise as the western. The wheat, sugar and maize which it produces have risen relatively less than the millets and the inferior grains which it imports and consumes, and yet the increase in assessment is 18 per cent, in the Samrála Tahsíl with an increase in cultivation of 5 per cent, against an increase of 16 per cent, in Jagraen Tahsil with an increase in cultivation of 10 per cent. These figures point to the present increase in assessment relatively to the increase in resources being greatest in Samrála, but it must be remembered on the other hand that Mr. Barnes, who was then Commissioner, and a very experienced Settlement Officer, held that the settlement now revised was lightest in its original incidence in Samrála and heaviest in Jagraon.

The distribution of the revenue was mainly left to the people themselves;—221 villages distributed it on shares, 203 by a general rate on cultivation, 201 by rates on irrigated and unirrigated lands, and 292 by soil rates (three or more classes). The people rarely recognized in their distribution the difference between Niai and other well land, nor did they make as great a difference between the classes of soil as had been recognized in the sanctioned rates.

12. The cesses noted in the margin are also sanctioned

Rs. A. P. Old local rate 8 5 4 per cent.) 0 0 School 1 ... Road 1 0 0 ••• ... 0 8 0 ... 5 Lambardárs 0 0 Patwárís

Total ... 18 !5 4

* Now consolidated in the new local rate of Rs. 5-6-10 on annual value, or Rs. 10-13-4 on the land revenue.

by His Honor. The Financial Commissioner in his review asks that power should be reserved to order an enhancement of the rate of the Patwaris' cess, but a subsequent proposal to raise the rate to Rs. 4-6-0 per cent. was negatived by Sir Charles Aitchison

in 1886, and Sir James Lyall, concurring in that decision, sanctions the cesses as proposed without any reservation. He concurs in Colonel Wace's remarks in paragraph 15 of his review on the care which the Deputy Commissioner should take to prevent cliques and money-lending among the Patwars and Kanungos. The Kanungo Agency has since Mr. Walker wrote his report been strengthened, and the second Naib-Tahsildar whom he considered necessary in the Ludhiana Tahsil was appointed in 1884.

The incidence of the new assessment with casses is Re. 1-13-0 per cultivated acre. The incidence of the former assessment and cesses in 1850 was Re. 1-8-9. crease taken is, Sir James Lyall thinks, fully as large as the requirements of a sound revenue policy demanded. other hand, the comparison with the assessments of neighbouring tracts given in the Financial Commissioner's review, the prevailing cash rents and the half assets all show that the Government was entitled to the increase it has taken. Above all, the experience of the six years which have now passed since the introduction of the new assessments gives the Lieutenant-Governor full confidence that the new assessments are equitable and moderate, and he has no hesitation in sanctioning them. The Commissioner of the Division (Colonel G. Young), in forwarding the Revenue Report of the district for 1887-88, wrote: "The revenue demand is paid with exceeding punctuality and ease and not a single rupee remained in balance." Sir James Lyall fully concurs in Colonel Wace's view that it would be unwise to give this sanction for a longer period than 30 years, and he therefore sanctions the assessments for 30 years with effect in the case of the Samrála Tahsíl from the kharíf of 1881 and in the rest of the district from the kharif of 1882.

14. One result of the past history of the district is that no less than Rs. 1,77,603 of the total land revenue assessment is assigned to jágírdárs, who pay commutation money for their former obligations of tribute or levies to the amount of Rs. 19,550 per annum. Half of the jágír income is enjoyed by the Malaudh family. The distribution of the jágír villages is shown in map No. V.

Besides the above, 8,708 acres are held revenue free. Zaildárs paid by a deduction of 1 per cent. from the land revenue were appointed at the present settlement, and inams to the extent of 1 per cent. on the assessment were granted to selected headmen. After allowing for all deductions, the new Government revenue roll stood at Rs. 9,14,298, an increase of Rs. 1,18,187 on the previous demand of Rs. 7,96,111. As protective leases for new wells expired, the Government demand will be further raised by Rs. 6,000. The gain to the jágírdárs is Rs. 25,391, rising eventually as well leases fall in to Rs. 25,974.

- 15. The work of the settlement was carried through with commendable promptitude. The establishment was engaged on settlement operations not much more than four years. The net cost to Government was Rs. 3,60,766, and as the initial annual gain to the land revenue was Rs. 1,18,187, Government recovered the whole expense of the settlement in little more than three years.
- 16. The Sirhind Canal was not yet opened for irrigation when the re-settlement was completed. Water was first given to 930 acres in the kharif of 1883.

The figures for subsequent years are as follows:-

		Are	A IRRIGATED	IN ACRES	IN
TAHSIL.		1834-85.	1885-86.	1886-87.	1887-88.
Ludhiána Jagraon		121 1,423	4,731 13,056	7,576 9,449	13,780 16,153
Total	•••	1,514	17,787	17,025	29,933

The distribution of the area for 1887-88 into rabi and kharff was—

				Kharíf.	Rabi.
Yudhiána	•••	•••	•••	4,855	8,925
Jagraon	814	•••	•••	4,773	11,380
	Total	•••		9,628	20,805

Wheat is the great spring crop on the canal lands, and of the 9,628 acres irrigated in the kharif of 1887, the most valuable crops were—

				Ludhiása.	Jagraon.	Tota ₁ .
Sugarcane		•••		1,422	53	1,475
Maize	***	***		1,442	2,631	4,073
Cotton	***	•••	सन्द्रम्बं र	898	4.45	1,338

The opening of this canal has practically secured the district against famine, and it has been considered unnecessary to frame any proposals for famine organization, relief or prevention. As the lands watered from the canal were at settlement assessed in their unirrigated aspect, except such lands as were then watered from wells, it is of course within the competence of the Government to at any time levy an owners' rate under Part V of the Canal Act. The policy followed, however, has been to levy occupiers' rates on a fairly high scale and to defer the question of taking an owners' rate until the effect on rents of the canal irrigation and the high occupiers' rates has been fully ascertained.

17. The system which has been introduced at this settlement for the assessment of lands subject to the direct action of the river is sanctioned by the Lieutenant-Governor. It appears to have hitherto worked satisfactorily and to be

well adapted to the local conditions. The question of the system to be followed was discussed fully in the orders on the Revenue Rate Report of the Ludhiána Tahsíl, and the rules now sanctioned were those which met with the approval of Sir James Lyall, then Financial Commissioner.

- 18. Formal sanction is also accorded to the record of rights, to the character of which the Financial Commissioner bears testimony.
- 19. In conclusion, Sir James Lyall heartily endorses the praise accorded by the Financial Commissioner to Mr. Walker, who performed the duties entrusted to him most successfully. He secured for the Government the increase of revenue to which it was entitled without giving the revenue-payers reason to complain of harshness or unskilful distribution of the demand; he has framed an excellent record of rights; he has brought the settlement operations to an early termination, and has submitted a report which shows great knowledge of the district and its inhabitants and will be very useful in its future administration. Chapters VII, VIII and IX constitute the Settlement Report proper. The earlier chapters were written for the Provincial Gazetteer. The last chapter was intended for a volume of "Punjab Customary Law."

Sir James Lyall much regrets that Munshi Chiranjít Lál, Extra Assistant Settlement Officer, and Munshi Ishar Dás, Superintendent, are no longer alive to receive the acknowledgments of their work to which they would have been entitled. Munshi Ahmad Bakhsh, now an Extra Assistant Commissioner, and Munshi Jodh Singh, now a retired Tahsíldár, are named by Mr. Walker as having given him valuable assistance, and Sir James Lyall has much pleasure in acknowledging their services.

ORDER.—Ordered that the above Review be published and forwarded to the Financial Commissioner of the Punjab for information and guidance, and to Mr. T. Gordon Walker for information.

Also that it be forwarded to the Government of India in the Department of Revenue and Agriculture for confirmation of the sanction to the assessment referred to in paragraph 13.



सन्त्रपंत्र नवने

From—The Houble W. C. Benett, C. S., Officiating Secretary to the Govt. of India, Rev. and Agril, Dept., To—The Secretary to Government, Panish.

I am directed to acknowledge your letter No. 114 of April 25th, 1889, with which you forward, for the sanction of the Government of India, a copy of the orders passed by His Honor the Lieutenant-Governor on the settlement of the Ludhiána District.

- The assessments to which the sanction of the Government of India is now required took effect over parts of the district in 1881, and in the remainder in the following They were not reported to your Government by the Financial Commissioner till February 1886, and the orders of the Lieutenant-Governor are dated April 25th, 1889, or more than three years after the receipt of the report from the Financial Commissioner, and nearly eight after the last assessments had been declared and realized. To interfere after so long an interval with arrangements which were. announced under official authority, and have since remained undisturbed, would entail much hardship on the proprietors, and the delay, which could hardly have been unavoidable. puts it out of the power of the Government of India to take any other course than to sanction the proposals of the Punjab Government as they have been reported.
- It is observed, however, that the revenue rates on which the assessment was based were deduced almost exclusively from the estimated rate of produce per acre for each class of crop. Such estimates are always liable to error, and the difficulty of arriving at exact results in the present case appears to have been increased by the large area of the plots taken for experimental cuttings, which must have precluded the Settlement Officer from exercising any effective personal supervision over the various processes of cutting, threshing and drying, so as to make it certain that nothing was abstracted before the final weighments were made. The average rates of produce thus deduced are considerably lower than might have been expected from the style of cultivation described in the report. The average revenue rate for the acre of cultivation over the whole district is nearly 30 per cent. less than half the average rental paid by tenants-at-will. The area in the occupation of that class of tenants was perhaps too small to be accepted as furnishing a standard for the assessment of the whole district, but the Government of India thinks that the rates paid by them should not have been put out of consideration. There is every reason to believe that the assessment is very moderate in its incidence, and it should offer no obstacle to the continued development of the prosperity of the agricultural classes.



सन्त्रपंत्र नवने

PREFATORY NOTE.

PART I of this Report was written for the Provincial Gazetteer; and in writing it I have followed as closely as possible the scheme drawn up by Mr. Ibbetson. This will account for many paragraphs which might otherwise appear to be out of place.

T. GORDON WALKER.



सन्त्रपंत्र नवने

SETTLEMENT REPORT

OF THE

LUDHIANA DISTRICT.

PART I.—Descriptive and Historical.

CHAPTER I.—DESCRIPTIVE.

- 1. Ludhiána is the most western of the three districts of the Amballa division. The main portion of the Geographical position. district lies between 30° 33' and 31° North Latitude and 75° 24' and 76° 27' East Longitude, and has for its northern boundary the river Satlej, neross which it faces the Jálaudhar Doab. To the east it adjoins the Amballa, and to the west the Ferozepur district, while to the south it is separated from those of the Delhi and Hissar divisions by the tract of country which is partitioned between the Chiefs of Patiála, Jhind, Nábha and Maler Kotla. To the north, east and west the boundaries are fairly symmetrical, but to the south the district is cut into by the territories of the Chiefs named The political history of our acquisitions in these parts will account for the unscientific nature of the boundary on this side, and also for our having to retain a number of detached villages stretching as far south as 30° 5', while two or three groups of Patiala villages lie surrounded by those of the Samrala talisil. The continuous portion of the district has a length along the river of nearly 60 miles; while the breadth, north and south, is about 24 miles except where Patiála territory juts into it between the Ludhiana and Samrala tabsils.
 - 2. The area of the district, as at present constituted, is by our settlement measurements 1,378 square miles, or 882,167 acres, of which the details are:—

			Cultivation.	Arable waste.	Barren waste, &c., &c.	Total.
Acres	•••	•••	729,009	86,664	66,494	882,167
Per cent.	***		83	93	71	100

This area is contained in 914 villages, which gives an average of 966 acres for each village. This statement of number of villages and area does not quite agree with that given in the Regular Settlement Report; and the difference is due to changes in the course of the river, and the transfer of a few villages to and from Patiala. Notwithstanding its limited area the district is one of the most important in the Province, paying between 11 and 12 lakhs of rupees in land revenue, and having a population of more than half-a-million. If we exclude the outlying villages, it is probably more compact and convenient for administrative purposes than any other district, the remotest point being not much more than 30 miles from head-quarters, and access to almost every part being easy by rail, or by the good roads which run in all directions. The outlying villages number 39, and have an area of 125 square miles, which is included in the above details.

- 3. The district has no very striking natural features. The main Natural Divisions:

 Bét Panjáb plain districts, i.e., a low-lying alluvial tract along the river (here called Bét), and the uplands (called Dháia.)
- Description of the river Satlej forms, as stated before, the northern boundary of the district. Debouching from the Siwáliks just above Rupar, some 25 miles east of the boundary of the Samrála tahsíl, it flows due west along the top of the district for a distance of about 60 miles, and turns, as it leaves the Ingraon tahsíl, slightly to the north towards its junction with the Beas. Even when at its lowest, in the middle of the cold weather, the river has a considerable volume of water, the main stream being generally 100 to 200 yards in width, and 7 or 8 feet in depth. Some of the people living on the banks are able to ford it when very low, but even to them this is attended with danger. When in flood it spreads over the country to a width generally of two or three miles; and, even where confined by the Philour Bridge Works to its narrowest, it measures nearly a mile of running stream.

The river is bridged for the Sindh, Panjáb and Delhi Railway at

Bridges and Ferries.

Philour, just under Ludhiána town; and there
are ferries with country boats at 13 places
along its course through the district. The passage appears to be
dangerous when the river is in flood, and boats are occasionally upset.

In former times there was a considerable amount of traffic carried in country boats down the river from Rupar, Machiwarah, Ludhiana to Ferozepur, and even to Sakkar; but this e used with the opening of the railway in 1870, and nothing is now carried down except wood, or stones from the hills for the Bridge Works at Philour.

5. Like all Panjáb rivers the Satloj is constantly shifting its Changes in the course of the river: limits of the Bét is nothing to keep it to one bed. Within the last 30 years we know that it has moved about

four or five miles northwards in the first few miles of its course in this district; and there can be no doubt that within a not very distant period (local accounts say 100 years) it flowed just under the Ridge which separates the Dháia or highlands from the Bét, the older towns and villages like Bahlolpur, Machiwárah, Kum, &c., having been built on its banks. The division between uplands and lowlands is everywhere marked distinctly by this Ridge or high bank (Dhá); and between it and the present course of the river lies the Bét tract. To the east of the district the river and the high bank are five or six miles from each other; and this distance is maintained for the first 30 miles; but below the town of Ludhiána they gradually approach until in the Jagráon tahsíl the Bét is only one or two miles in width, and finally disappears.

Immediately under the high bank along what was once the course of the Satlej now runs a perennial The Budha Nála. stream called the Budha Nála, which takes its rise in some springs near Chamkour in the Rupar talisil of Amballa, and enters this district under Bahlolpur. Passing just below the town of Ludhiana, it flows into the Satley in tabail Jagraon, a few miles east of the Ferozepur horder. When swollen by floods in the rains it has a considerable volume of water and covers the country about; but ordinarily the actual stream is only a few yards across, although there is in places a good deal of swamp about it. The water, except in the floods, is perfectly clear, and is used freely by the people for drinking purposes, but never for irrigation. The reason for this is that it is said to contain a large infusion of salts, but in any case it would have to be lifted to the fields; and, with the water level only eight or ten feet below the surface, it is as easy to dig small unlined wells where they are wanted.

In the Samrála tahsíl a good deal of injury is done to what would be valuable land by the spread of swamp, the stream being only slightly below the level of the country, and all land within a short disfunce of it is injuriously affected by percolation. To the west the banks are high, and the land is cultivated right up to them. In the cold weather the Budha can be crossed on foot at certain points which are well known to the people; but generally the bottom is treacherous, and in the floods of the rainy season even at these fords the water is too deep for wading. There is a bridge at Luthiána on the Jálandhar road; and there was one just under Machiwárah, which was a great convenience but has been allowed to go to ruin. The result is that in the floods the people of the Bét are almost entirely cut off from the rest of the district. The floods do not last very long, being caused by rainfall in the plains only.

7. In the immediate vicinity of the river is a strip of land

General description of the Bét tract: soil.

Bét in process of formation. Something occurs to divert the force of the river from a certain point; and, when the floods subside, a shallow deposit of silt is found covering.

what was before an expanse of sand. The accumulation of silt goes on for a year or two, being assisted by the growth of "dib" grass (Eragrostis cynosuroides), which is generally followed by "pilchi" called here "jhao" (Tamarix orientalis). When the deposit is about six inches in depth, the land becomes capable of yielding crops; and it is gradually reclaimed by being put through a regular course of cultivation. The formation of a deposit is by no means a uniform operation. A few years may leave three feet of first-rate soil, or the deposit may remain so shallow as to make cultivation scarcely worth while; and one often sees apparently good land abandoned by the people after a trial. The action of the Satlej in this way appears to be mostly beneficial. The "mand" tract of the first 20 or 30 miles is probably one of the richest pieces of land in the country, and with the very slightest labour magnificent crops are raised in what is really virgin soil. Lower down to the very end of the district the silt is also most fertilizing, although the crops are generally of an inferior class. The river is of course a very powerful and capricions agent, and the saying "Ek sál-amír ék sál-fagír" is applicable to this as to any other riversin teact. The poor cultivator may find, when the floods have subsided, that a piece of barren sand has taken the place of his fertile fields; and that he owns no land that will yield him any thing. In the older or packa Bet the process of formation has ceased long ago; but there are abundant traces of it. High ridges of river sand occur, and the deposit of soil is generally three to five lect in depth, though in places the sand actually appears on the surface or is just concealed by a coating of soil. The soil of the "mand" is generally a stiff, moist loam of dark colour; and that of the packa Bet of the same character, but drier and of a lighter tint, the proportion of clay being considerable. There is a great difference between the produce of the first 10 or 15 miles of the Bét and that of the lower parts, but this is perhaps due to the heavier rainfall in the former rather than to any thing in the quality of the land. The Bet is everywhere cut up by streams, which convey the drainage to the river. In the rains these overflow their banks and flood the country; but they are mostly dry for the rest of the year. In such a damp tract it was to be expected that in places impeded underground drainage should produce "kuller" or soil so impregnated with salts as to be barren. There is some of this along the Budha nála, but not much elsewhere. Saline efflorescence appears here and there all over the Bet, and patches of enlivated land will be found in which the salts have prevented the growth of the crop; but the evil is not widespread. It is worst about Nurpur in Ludhiána and in the adjoining part of Jagraon Bet, where the course of the drainage is in places away from the river, and the water oozes out just under the high bank.

8. From the high bank the Dháin or upland part of the district stretches to the south in a plain, the uniformity of which is unbroken by hill or stream. The surface is perfectly level, except in the immediate neighbourhood of the high bank, or where a sand ridge occurs. There

is a very gentle slope from north-east to south-west, at right angles to the Siwáliks, and the lines of drainage follow Drainage lines. this. In the neighbourhood of the high bank, the rainfall is all absorbed by the light soil; but further inland there are some very well defined drainage lines, locally known as "rao," which in a year of heavy rain earry a considerable body of water along the depressions which they have apparently worn for themselves. Some of these "raos" can be traced from one end of the district to the other; and have most of them been carefully recorded by the Canal Department. They are a cause of complaint to the villages lying on them, as they do considerable injury to the crops and at times destroy wells. This is the whole extent of the harm done by them, for, even where the flow of water is partially impeded by the embankments of the Grand Trunk Road, the Railway, Canal &c., there is never anything approaching to swnmp.

- In the neighbourhood of the high bank the surface is uneven, 9. and the upper soil is a poor light sand, shifting Soils of the Dháia. under every wind and blown into hillocks. There is a good subsoil, however, and this will account for the very fair crops that are raised out of what appears little better than a wilderness. This light sandy tract extends inwards for four or five miles, the surface getting gradually more even, and the soil improving. South of it in the main portion of the uplands every variety of soil will be found from a very stiff clay to the lightest of sands. In the half of the district east of the Maler Kotla road the prevaiting soil is a stiff loam of darkish colour, with a good deal of clay in it, while to the west of this road a much larger portion of the area is light loam or sand. But everywhere sand occurs, being confined in the Samrála talisíl to two very clearly marked belts of two or three miles width, which run in a south-western direction and appear to indicate the course of some old hill-stream or drainage line. Elsewhere, scattered over the district, there are numerous ridges of sand, covering considerable areas, and presenting the appearance of continuity for short distances, while elsewhere detached patches crop up in a manner quite maccountable. These ridges of sand are most common in the south-western portion of the district about Pakhowál, in tahsil Jagráon and in the "Jangal" or detached villages. They rise in places to u height of 20 or 30 feet; and, especially in the Jangal, where they occur most frequently, quite shut in the view, and give the country an undulating appearance.
- Minor subdivisions of the Dáhia.

 The Bét people talk of the whole as "Dháia," though they will sometimes refer to the "Jangal" country as something beyond the Dháia. The people of the eastern portion speak of the whole tract to the south-west of the district, including our detached villages and part of Jagráon talisíl with the Patiála and other territories, as "Jangal." They talk of it as a country where, although the rainfall is seanty the produce of the unirrigated crops is very fine; where the land

is new and there is plenty of it; where, instead of the constant drudgery necessary under a high system of agriculture, the cultivator has merely to sow his seed, and does what he pleases till harvest time. On the other hand the Jat of the Jangal will compare his sandy fields, where only the coarsest grains can grow, with the rich "Pawadh" with its sugar, cotton and maize fields, where the produce of a single aere is equal to that of a holding of his land. There is then, if we exclude the narrow sandy strip of land just over the Bet, which I have before described and which is uniform along the whole length of the district, this general distribution into the Pawadh, or eastern tract, and the Jangal or south-The characteristics of the former, which comprises the high lands of the Samrala tahsil, and all the part of Indhiana east of the Maler Kotla road, are a soil which is generally a fertile loam, rather stiff in places; a high rainfall and a very large proportion of irrigation, with (what is the natural result of this combination) a very highly developed condition of agriculture, all the superior crops being grown. Across the Maler Kotla road the soil grows much lighter, and the rainfall less, while irrigation becomes difficult, and the higher crops disappear (first sugareane and then cotton); till finally in our outlying villages irrigation is unknown, the spring level being over 100 feet from the surface, and only the hardiest crops being able to subsist on the scanty moisture. There is, of course, an intermediate tract, and this is sometimes called Tihára, in which would be included most of the Jagráon talisil, and the country about Pakhowal in Ludhiana. The people of the Jagraon tabeil speak of the whole country south of the Grand Trunk Road as "Jangal" or " Rohe," reserving the name Dhain for the tract between it and the high bank. This is the most correct use of the latter term, which does generally mean the land just over the Dhá.

It was not to be expected that in such a highly cultivated district there should be much room for the Flora : Trees. spontaneous growth of trees or shrubs. There are in some villages of the Bét small plantations of kikar &c., reserved by the people. In the uplands, even at the last Settlement, there was little growth of jungle in the uncultivated lands; and since then the cultivation has absorbed most of the waste that was left. In a very few villages in the upper part of the district there is a small area still left under dhak (Butea frondosa), forests of which must at one time have covered the face of the country. This tree requires a good deal of rain and a hard soil, so that it is not to be found in the south-west of the district and in the ontlying villages; but in those parts there is a comparatively much larger area of waste still unbroken, and covered with the hardier "jand" (Prosopis spicigera), "karil" (Capparis aphylla), &c. I doubt if there will be much growth of any sort left in ten years, for already, since our assessments were announced, the people have begun to bring the remaining waste under the plough. Trees (generally kikar and ber) are scattered about the fields, and line the village roads, or are to be found round the village site; and the general result, except in the light-soiled villages to the south-west, is to give one looking across the country the impression of its being well-wooded. The Government roads have in places along them fine avenues of all sorts of trees (shisham, siris, &c.), and in a few years the canal also will have a very good show. Besides this there are two considerable plantations under the Forest Department, one in the Civil Station and one on the Philour road near the river. The Malond Sardárs have two or three pieces of "Bir" or forest in the neighbourhood of Malond and of Sahna; and these cover a good deal of ground. The following is a list of the more common trees of spontaneous growth to be found in the district:—

Vernacular or Local Name.	Botanical Name.	Remarks.
Kikar	Acacia Arabica	Grows in most parts of the district, but best in the east. Affects a stiff soil, and likes rain, but is very hardy. It is the zemindar's tree par excellence, being most useful for all agricultural purposes and roofing.
Bér, Béri	Zizyphus Jujuba	Grows in most parts of the Dhaia, and does well in sandy soil. Useful for its fruit, and also for its wood for roofing. Is planted in groves as a protection against sand drift,
Pípal : Barota or Bar	Ficus religiosa; Ficus Indica.	Grow in all parts of the Dhain, where planted; generally on the edge of the village pond; useful for shade only.
Pilkan	Ficus venosa	Takes the place of the above in the Bet: grown for shade.
Farwáh or Farásh	Tamarix orientalis	Grows very generally where planted in the Bet, mostly round the village site; also, but more rarely, in the uplands. Useful for roofing.
Shisham	Dalbergia sisso	Grown along roads &c. by Government.
Phulái	Acacia modesta	Grown in Bet and Dhaia, often in groves: wood is useful for roofing, making doors, &c.
Dhék or Bakáin	Melia sempervirens	Planted at the wells in the Bét: grows very fast, and wood useful for roofing. The Aráiens and Sainis usually grow the tree round their wells for its shade.
Ním	Azadirachta Indica	A good tree for shade; not very com- mon, and growing by itself both in Bét and Dháia. Wood is useful.
Tut	Morus	As above; wood is useful.

Local Name.	Botanical Name.		Remarks.
Dhak, Jan, and Karil,	Bulea frondosa Prosopis spicigera Capparis aphylla	•••	
Kaimb			There are one or two groves of this tree, which is useful only for shade.

It is not necessary to give a detailed list of the various fruit trees to be found in the gardens about the city and elsewhere, as these are the usual ones of the Panjáb plains. Oranges and loquots seem to do best; but the district is a bad one for fruit.

12. In newly formed land along the river is to be found the usual growth of "pilchi" (para. 7), here known as "jháo." It is very useful for making baskets, Shrubs, grasses &c., in and for lining katcha or temporary wells. There is also an abundant growth of "dib" grass (para. 7), of which chitái or matting is made; and in places of a plant called "kahi," which, when young and tender, is used for fodder, and when old hardens into a reed, used to make an inferior sort of pen. In the Budha there is a weed called "jála" which is very largely used in clarifying sugar (see Note on Sugar.)* "Sarkanda" (Saccharum moonja), generally called "Sarwar," grows in many places of the Dhaia, and is largely planted In the Dháis, "Sarwár." along roads, and where there are sand hills with a view to stop the drift, which it does more or less effectually. The varions uses to which this grass is put need not be detailed. There is a regular system of cultivating it. The year's crop is cut down in March or April, and fire applied to the stnmps with a view of promoting fresh growth. It begins to spring immediately after the rains, and attains a height of ten feet or upwards. Large sums are realized by the sale of what is grown along the Government roads: and in places round Ludhiána, it is found profitable to give up the cultivation of inferior sandy soils and to plant this. There is a small shrub called "jháre," which deserves special mention for its useful-Jbáre. ness. It is a small, prickly bush, which grows in abundance in the waste laud of most villages; and, as it is called "mallah" in the Jangal, I identify it with the wild ber (Zizyphus nummularia). Twice in the year the growth in the village common land is cut, and the produce most carefully divided according to the proprietors' shares When dry it is beaten with sticks and tossed with a pitch fork ("salang"); and the leaves thus separated from the branches, which make a most excellent hedge that will keep out anything. leaves are given to the cattle as fodder, either alone or mixed with straw, and are said to be most strengthening. "Ak" (Calotropis pro-

cera) grows all over the district in the fields; and is cut down for fire-

wood as fast as it appears.

^{*} Appendix XIII,

The principal weeds that grow amongst the cultivation are "piázi," "kasumbhi" and "lehi." The two first are so named from their resemblance to the onion and the safflower, and the last is the common field thistle. They all three flourish throughout the district; but the Bét soil appears to suit them best. "Piáji" does the most harm, and a great part of the cultivator's time is taken up in rooting it out of his fields. The process is not attended with much success in the Bét and in Mahomedan villages elsewhere, and one often sees a field of wheat completely killed down by it. It appears to be impossible to clear land of the weed altogether, for there is a fresh growth every year; and, if left alone, it would very soon cover the fields. Other less common weeds are "báthu," "churi saroch," "jounchi," "harmal," "bárn."

13. The domestic animals will be appropriately mentioned elsewhere. For the following very complete lists of the larger mammals, the game birds, venomons snakes, and fishes commonly found in the district, I am indebted to Mr. F. Field, who has, in addition to an extensive knowledge of natural history, a minute acquaintance with the district:—

List of the larger mammals found in the Ludhiána District.

Name, English and Hindustani.	Scientific Name.	Habitat, &c.
The Otter (H. Ood)	Lutra Nair	Found all along the Satlej; grows to a large size. They are also found occasionally along the reedy bed of the old bed of the Satlej during the cold weather.
The Wild Cat (H. Jangli Billi).	Felis Chaus	Common about Ludhiána: and in all grass jungles throughout the district where they do great damage to the game of all sorts.
The Wolf (H. Bhe- ria, Bhagiár).	Canis Pallipes	Found scattered throughout the dis- trict, chiefly along the banks of the Sirbind canal. They seem to have increased within the last few years in this district, and do considerable damage to the village goats and calves.
The Jackal (H. Gidar).	Canis aureus	Common throughout the district.
The Indian Fox (H. Lumri).	Vulpes Bengalensis	Thinly scattered throughout the district.
The Desert Fox (H. Lumri).	Vulpes leucopus	Ditto. Rarer in the cultivated parts, but commoner than V. Bengalensis towards the south and sorthwest.

List of the larger mammals found in the Ludhiána District.—(Contd.)

Name. English and Hindustan	Scientific Name.	Habitat, &c.
The Porpoise (H).	Plantista gangetica (?) P. Indi.	Found in the Satlej; commoner in the cold season. The one found here is probably P. Indi.
The Hare (H. Saha, Sayar, Khargosh).	Lepus ruficaudatus	Found everywhere throughout the district; most plentiful to the southwest, wherever there is sufficient jungle; common all along the canal banks.
The Wild Pig (H. Jungli Soor).	Sus Indicus	Found along the banks of the Satlej, wherever there is sufficient cover; but common nowhere. Chief habitat: the long grass grown in the angle to right of Railway Line to Phicur, where bunds, &c., have been erected.
The Nilgai (H. Roz).	Portax pictus	A few are found to south and sonth- west of district in jungles, border- ing on native states, where, the chiefs being Sikhs, they are more or less preserved, and are more com- mon.
The Antelope (H. Mirg, Harn).	Antilope begoartica	Found plentifully throughout the district. They rarely visit the low-lands (Bét), but chiefly confine themselves to the higher land, where there are large plains surrounded by cultivation. Formerly large herds were found in the district; but now it is rare to see a herd of 100 individuals. In the south-west of the district their place is taken by the gazelle, and they are rarely or never seen. This is the more stronge as they are very common in Hissar and Sirsa, districts closely resembling the south-west of this district in quality of soil, &c.
The Gazelle (H. Harni, Chit-kara).	Gazella Bennettii	The ravine deer of sportsmen, common throughout the district, chiefly wherever sand hillocks dottheplains; very common to south-west of this district, where it entirely supplants the antelope.

[11]

List of the Game Birds found in the Ludhiana District.

Name.	Scientific Name.	Habitat, &c.
The large Sand Grouse (H. Bha- titar).	Pterocles arenarius	Comes in immeuse flights in the first week of November, though occa- sional small flights may be seen in the end of October. It remains till March and re-migrates north.
The large Pintail Sand Grouse (H. Bhatitar).	P. alchata	Occasionally found mixed up with P. arenarius, but rare. Probably more numerous to the west and south-west of the district.
The small Sand Grouse (H. Bhati- tar).	P. exustus	The rock pigeon of some sportsmen; much rarer than P. arenarius; commonest to south and south-west of the district.
The Peacock (H. Mohr).	Pavo cristatus	Found in very many parts of the district. It is semi-domesticated, and is generally to be found near villages. It is held sacred by some of the villagers.
The Black Partridge (H. Kala Titar).		Nowhere very common; but a few are to be found along every mile of the Sirhind Canal. Also found in all the jungles to the south of the district. Not common to the south- west, where the grey partriage has supplanted it.
The Grey Patridge (H. Titar).	Ortygornis Pondiceria- na.	Found sparingly everywhere wherever there is any jaugle; near a village they seem specially to congregate; but wherever there is grass or bush they are to be found. To the south-west of the district they are most plentiful.
The Quail (H. Batair).	Coturnix communis	Pleatiful from April till the rabbi crop is cut. Again they come in on September and stay till the kharif crop is cut; some few birds stay in long grass, &c., all the cold weather, and a very few stay and breed here in June and July.
The Rain Quail (H. Batair).	Ovturnix coromandelica	A rainy season visitor. comes in in July when its peculiar "wheet wheet" is to be heard in cloudy weather all day. It leaves before C. communis arrives as a rule, though occasionally both birds may be flushed in one field.

List of the Game Birds found in the Ludhidna District.—(Contd.)

Name.	Scientific Name.	Habitat, &c.
The large Button Quail (H. Batair).	Turnix Dussumierii	This bird occasionally is flushed when quail shooting in September and October, but is by no means plentiful and stays a very short time.
The Button Quail (H. Chota But-air).	Turnix Sykesii	Found occasionally in the spring and autumn crops. It has a very strong scent, and dogs invariably put them up though they may fail to put up a common quail.
The great Bustard (H. Tooghár).	Eupodotis Edward- sii.	Though I have no actual information of the occurrence of this bird in this district. I cannot help thinking that it must during certain times of the year visit the south-west of the district, probably during the hot weather and rains.
The Onbara (H. Khur Mohr).	Houbara Marqueenii	A very few of this species visit this district during the cold weather. Occasionally a flock takes up its residence near an open bush jungle and stays for a month or so; but this is rare.
The Lesser Florican (H ?)	Sypheotides auritus	Once and only once this bird was seen in this district. It was in September and was emigrating probably. It was in the "People's Park" at Ludhiáná close to the civil station.
The Lapwing (H?).	Vanellus cristatus	Found all along the Satlej, but chiefly along the lanks of the "Budha Nála," where it is plentiful during the cold weather.
The white tailed Lapwing (H?)	Chettusia leneura	Common along the "Budha Nála" every cold weather, notwithstand- ing Jerdon's remark that it is a rare bird in India.
The Sarns Crane (H. Taras).	Grus antigone	Occasionally found in pairs about the district, chiefly to the south.
The Koolan (H. Koonj).	Grus cinerea	A cold weather visitant in large numbers. It comes in in October and leaves in the end of March; spends the day near or on the river Satlej and flies inland to feed on the green crops or sown grain morning and evening.

List of the Game Birds found in the Ludhiána District.—(Contd.)

Name.	Scientific Name.	Habitat, &c.
The Demaisclle Crane (H. Khar- khair).	Anthropoides virgo	On its passage to and from lower India, this handsome bird occasionally stops to rest and feed on the Satlej. It is only in October and the latter half of March that it is ever seen, and then only for a day at a time. It never makes a prolonged stay here, being more of a jheel-loving bird than its congener G. communis.
The Suipe (H. Chá- ha).	Gallinago Scolopacinus.	The full suipe of sportsmen. Common all along the "Budha Nála" and rushy places throughout the district. The first flight arrive about middle of September; no more come till October, when they strágglein; nowhere to be found in considerable numbers till January. They stay till end of March, and the last flights pass through in the end of April.
The Jack Snipe (H. Cháha).	G. gal	Arrive in the end of September and stay till April.
The Pintail Suipe (II. Cháha).	G. stenura (१)	This bird, so much commoner in the Indian Peninsula than the Pánjab must, I fancy, be occasionally found in this district, but it has nover been met, though sportsmen have examined many snipe shot the lust two years.
The Painted Suipe (H. Cháha).	Rhynchæa Bengalensis	Found throughout the district, com- monest in the early cold weather. Affects all the swamps and pools. Breeds in the district where it has been seen all the year round.
The Godwit (H. Cháha).	Limosa ægocephala	Found in the cold weather and be- ginning of the hot near the Satlej on all large pools and swamps.
The Curlew (H. Cháha).	Numenius arquata	Frequents the "Budha Nala" and the land lying near the Satlej where it feeds in the fields, &c. A cold weather visitant.
The Flamingo	Phænicopterus roseus	Stragglers no doubt visit this district during the late rains and early cold weather. Shot once at Miani.

List of the Game Birds found in the Ludhiana District .- (Contd.)

Name.	Scientific Name.	Habitat, &c.
The Barred-headed Goose (H. Mag).	Anser indicus	Visits the district in considerable numbers in the cold weather; stays from October to March. They spend the day by the rivers, visiting the gram fields in land during the morning and the fields near the rivers in the afternoon.
The Black-backed Goose (H. Nagta).	Sarkidiornis melanono- tus.	Though there is no actual record at hand of this rainy season bird visiting this district, there is no doubt it may be found occasionally towards Miani, Machiwara, &c., in the rains.
The Grey Goose (H. Mag).	Anser cinereus	Visits the district during the cold wenther. Habits identical with A. indicus. Some few flocks live in the interior of the district for two or three mouths away from the Satlej.
The White-bodied Goose-teal (H. ?).	Nettapus coromo ade- lianus.	Found occasionally in the beginning of the coid weather and occasionally in the hot, along the Satlej and Budha Nala.
The Whistling Teal (H. Murghabi).	Dendrocygna awsuree	Found during the hot weather all along the Satlej.
The Ruddy Shield- rake (H. Surkháb, Kawuk).	Casarca rutila	Virits the "Budha Nala" occasion- ally in the cold weather, and in considerable numbers the Satlej. Feeds often on gram inland in large flocks.
The Shoveller (H. Murghábi).	Spatula clypeata	Visits the district in the cold weather, and may be found on all village tanks and jheels till April.
The Mallard (H. Murghábi).	Anas boschas	Cold weather bird, found in huge flights in the Satlej and also on "Budha Nála." Arrives in Novem-
The Spotted-billed Duck (H. Mur- ghábi).	Anas poecilorhyncha	ber. The "wax bill" of some, found occasionally on the Satlej and "Budha Nála" during the bot
The Gadwall (H. Murghábi).	Chaulelasmus streperus	weather as well as the cold. Comes in in October, and is very common in all jheels as well as on the Satlej and "Budha Nála." Comes at night in huge flights to feed on the weeds in the nála.

[15]

List of the Game Birds found in the Ludhiána District.—(Contd.)

Name.	Scientific Name.	Habitat, &c.
The Pintail (H. Mur- ghábi).	Dafila acuta	A few flights are seen every year. Commonest in the beginning of the vear in the ponds in the interior of the district.
The Widgeon (H. Murghábi).	Mareca penelope	Some few are seen every cold wea- ther, but never in any numbers.
The Teal (H. Murghábi).	Querquedula crecca	One of the commonest cold weather birds. Found in all pools and on Satlej and the "Budha Nála"; comes in end of September and goes in April.
The Garganey (H. Murghábi).	G. coicia	Some few visit the district in September and October; but disappear again till March. Nowhere very common.
The Red-crested Po- chard (II. Mur- ghábi		Visits the Satlej and "Budha Nála" in large numbers in February and March. It has also been shot in July in the district.
The White Eye (H. Murghábi).	Aythya nyroca	Visits the Satlej and "Budha Nála" in the cold weather.
The Golden Eye (H. Murghábi).	Fuligula cristata	It is the tamest and the commonest duck found; occasionally a few flights visit the district in the winter, principally in March.
The White-chaded Duck (H. Mur-		One specimen of this very rare bird was shot in this district.
ghábi). The Merganser (H	. Mergus castor	Found on the Satlej occasionally though rarely during the cold weather.
The Smew (H?)	Mergellus albellus	Found occasionally in the cold weather.
The Grey Pelican (H. Painh).	Pelecanus Philippensi	Found in the "Budha Nála' and Satlej .during the hot weather and rains.

List of the Thanalophidia or Venomous Snakes in the Ludhiána District.

Name.	Scientific Name.	Habitat, &c.
The Cobra (H. Kala Samp).	Noja tripudian a	The most deadly, as well as the most common, of all the poisonous snakes in the more cultivated parts of the district, and wherever there is cultivation, gardens, &c. also in all the jungles. It grows to a large size, having been killed 6 feet long. In the open sandy parts of the district it is supplanted by E. carinata.
The Ringed Snake (H. Karait ?),	Bungarus caruleus	Inhabits the same country as the cobra, except that it is not found in juugles. Commonest about gardens where there are old walls, &c. Hardly less deadly than the cobra, and as it has a habit of curling up by doors and under chicks, &c., and not moving at the approach of man, it is a most dangerous suake. It is generally known by the name of the "Karait."
The Russell's Viper	Daboia Russellii	Rare in this district, but found occasionally, chiefly towards Machiwarah and Bahlolpur to the north-
The Chain Adder	Echis carinala	Very common throughout the district in the drier and more sandy parts. A small sluggish snake and fortunately less deadly than any of the three foregoing species; otherwise there would be more deaths from sunke bite than there are. On being met at night it never attempts to get out of the way, but curls up in an attitude of defence and gives out a hissing noise by rubbing its carinated scales together. When a report of the poisonous snakes of this district was being prepared in 1871 (?) a very great number of these snakes were brought in. Their captors said they found them under any old logs about the fields or villages on the higher lands. This is the celebrated "Knpper" of Sciud probably, where it appears to be more deadly than in the Panjáb.

List of the commoner Fishes found in the Ludhiána District.

The Mahseer ... Found throughout the year in the Satlej and the Budha Nala. In the Satlej they run to a large size, some specimens weighing about 50lbs. and over. They spawn in the rainy season.

The Rohoo ... Found in the Satlej and the Budha Nála; is even commoner than the mahseer. It spawns in July and August. It runs to about 20 or 30lbs.; larger specimens are rarely found.

The Sewal ... When in condition one of the best fish for the table found here. There are several varieties of this fish. Its appearance changes greatly with the season and the water it is found in. It spawns late in the year, and the young may be seen in countless numbers in pools at that time.

The Batchua ... During the rains, after the first heavy floods have swept do n the Budha Nála, this fish begins to run up. It is rarely in good condition owing to the thickness of the water, but is notwithstanding the very best eating fish to be had here. In the Satlej it is found in great quantities near any places where young fish congregate. It probably migrates for part of the year and also to spawn.

The Tingra ... Small specimens of this fish are found in any numbers in the Budha Nála and Satlej. It rarely runs large, yet specimens of 5lbs. or so are sometimes caught by the fishermen.

The Eel ... "Bám." Common in the Nála and Satlej. In the latter it is occasionally found very large, 8 or 9lbs. in weight, but in the Budha Nála specimens of 1lb. even are rare. It is found all the year round and does not appear to migrate.

The Mohoo ... This fish is found after the rains. It runs up after the heavy floods in the rain, and grows to a large size. Very commonly found 5lbs, in weight. It has a curious habit of rising constantly to the surface of the water and turning over, showing its very broad silvery side.

The Chapta. ... Very like the mohoo, and closely allied to it in habitatic states of the surface of the surface. It has the habit of turning over on the surface. It is a small fish rarely weighing ½lb. in weight.

The Mallee ... A common and very voracious fish, the shark of this part of the world. It runs to a huge size in the Satlej, and fair sized fish come up the Budha Nála in the rains. It breeds in July and August like the rohoo.

The Singhee

... A not very common and very repulsive looking fish, very dark purple or red. Said to be a good table fish; but its looks rather keep people from trying it.

The Chilwa

... Common in both the Satlej and the Budha Nála, where in antumn and spring it may be seen rising at gnats in hundreds like trout. By all accounts, owing to excessive netting with small meshed nets, this fish has been considerably thinned out near towns.

The Rewa

- ... Something like a small manseer, but with scales like a grayling in parallel rows along the body. Has a curious habit of swimming in companies about on the surface with its mouth out of the water during the late autumn and spring.
- In the cold weather wild fowl are plentiful along the river and in the Budha Nála, but they are much dis-Sport: Small game. turbed in the neighbourhood of Ludhiána by native "shikaries." I have had very fair snipe shooting under Machi-Flocks of kulan and geese are also to be met with in the In the uplands there are a good many hares, though the Jat wárah. of the present day is fond of coursing: and partridges, black and grey, are to be found in the sugarcanc fields or where there is a small patch of, Quail are abundant in their seasons; and sand grouse of several sorts are to be found in numbers in the cold weather amongst the "moth" &c., stubble in sandy soils, as well as flocks of wild pigeon. Peacocks are common in the eastern part of the district and live in the sugarcane fields. The ordinary Jats have no great objection to their being shot; but the birds are really half tame, and only eatable when young. Owing to the absence of cover it is not generally an easy matter to make a large bag, except, perhaps, amongst the quail or snipe: and one brings home from a day's shooting a most miscellaneous collection of game picked up in the fields. In some of the detached villages, which have a growth of jungle left, it is possible to get a good bag of grey partridge and hare: and there are some "birs" or reserves in Patiala territory which are strictly preserved and abound with game. Pigs are very common along the

river just under Ludhiána. They find shelter mostly in the forest plantation on the Philour road and in a large jiece of land beside the river, covered with high grass, which has been taken up by the Railway Company for purposes of protection of their bridge. The number of pigs appears to have increased within recent years; and it is only here that they are found. They come out at night in swarms and ravage the fields to great distances about, devoting most of their attention to sugarcane, maize, &c., of which they are fond: but also rooting up the young spring crops from sheer vice. They are fondest of the "ponda" or thick sugarcane; and in Rajowál and other villages where it is grown extensively the people are out all night along

the boundaries of their fields with fires lighted and keeping up a continual noise. The pigs, however, do not appear to mind this, and get into the fields. The amount of injury done by these pests is very large; but no systematic attempt has been made to kill them down. It is not possible to ride after them owing to the rough and broken nature of the country and the difficulty of getting them out. An occasional sportsman shoots a few, but the loss is not felt. The antelope and ravine deer are common in most places;

and one has to go a very few miles from Ludhiána to get a good black-buck. The deer are very tame; but shooting them is attended with considerable risk, owing to the prefectly flat nature of the country, and the number of people that are always working in the fields. Nilgai are found in some of the waste lands belonging to our detached villages.

- Mineral products.

 is quarried in many places, and is to be found in sufficient quantity and at so convenient sites that there is no difficulty in obtaining a supply for all the metalled reads and for lime. Saltpetre used to be made in a few villages; but the manufacture has been given up.
- 16. The rainfall has been observed for a number of years at the Rainfall: Annual.

 three tabsil head-quarters which are fairly central except in the case of Ludhiána. The following is the result of the observations of 18 years:—

Samrála ... 27 inches.
Ludhiána ... 27 ,,
Jagráon ... 21 ,,

From a comparison with the averages of surrounding districts, I calculate that the fall varies for the continuous portion of the district from about 30 inches at Sherpur in the north-east corner to less than 20 inches at Hatur in the south-west, a distance of about 55 miles. In the outlying villages the fall is generally about 17 inches, but goes as low as 15, probably, in the extreme south ones.

Distribution throughout tion during the years 1869—83 of the rainfall at Ludhiana over the twelve months:—

Month.		1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1580	1881	1882	Average
April	•••	411	·2	.3	18	••••	1.		1.9	1.1	3 5	***		•1	1:3	.7
May			•1	.3	.7	4.	.3	1.7	.8	.2	2.3	•4	•••		•••	.9
June	> 4 4	1.1	2.7	7.6	2.2	•1	19	•3	•1	1.2	.2	4 ·6	2.4	2.9	·1	2.
July	* + +	16.4	4.2	3.2	19.7	113	7.0	4.4	5.2	4.6	8 2	2.6	13.9	9.3	3.3	81
August	4 4 4	1.4	7.5	1.1	15.5	5.	1.7	8.9	1.6	2.8	18.2	4.1	3.7	8.	4.7	5 6
September	4 0 6	103	2.8	•5	26	2.9	2.6	17.7	1.]	12.	1.7	·5	•1	·3	1.3	4.
Total 6 months	444	29 2	17.5	13.3	42 5	23.3	144	33.	10.8	22.2	28.1	12.2	197	20.6	10.7	21.3

Mortu.		1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	Average.
October		12			•••	1.1		1.	.7	21						.4
November									•••	.8						·1
December			•4	.8	-6			.2		56	•1	9				.7
January		1.8	.1	*	2.1	•4	2 1			2.	.8		•1	2.7	3.2	1.1
February		-4	-1	4.1	•2		1.7	1.6	.6	2.3	1:3		4.1	5	.4	1.2
March		6.7	1.8	•••	-5	16	.6		2.6	2.5	.3	1.8			8	1.4
Total 6 months		10 1	24	4.9	3.7	3.1	4 1	3.1	3.8	15.3	26	2 7	4.2	3 2	4.4	49
Total 12 months	• • • •	39 3	199	18.3	46.2	26.4	18 8	36.1	146	37 5	30.7	14.9	23 9	23 8	15:1	26.1

Our months do not agree with the seasons understood by the people-The monsoon or rainy season generally begins in the last ten days of June, i.e. the first fifteen days of the native month of "Har": and lasts during July, August and September (Hár, Sáwan, Bhádon.) The advent of the mousoon is heralded by several days of boisterous weather, the wind blowing steadily from the south-cast. The land has been parched by more than three months of a blazing tropical sun till there is searcely a vestige of vegetation left; but with the first fall nature springs into life, and in a few days the face of the country is covered with verdure, grass grows abundantly where it is allowed to, and the autumn crops soon show themselves in the cultivated fields. Rain and sunshine succeed each other at short intervals during the next three months, the breaks of fair weather lasting generally only for a few days. The monsoon rains close at the end of September. There is then generally a slight fall about the time of the Diwali Festival (20th October), fairly heavy rain about Christmas or the New Year, and again at the end of February or beginning of March. The total of the winter ("Siál") falls in six months is not equal to that of the single months of July, August, or September, but owing to the lower temperature the effect is much greater on the vegetation.

17. The following is a statement of the temperature during the months of May, July and December, being the average of observations between 1880 and

1882:—
Temperature in the shade in degrees Fahrenheit.

	MAY.		JULY.			D есемвъв.				
Maximum.	Minimum,	Mean,	Maximum.	Minimum.	Mesn.	Maximum.	Minimum.	Mean,		
103	69	86	94	78	86	74	43	58		

In April the temperature is at first moderate, but towards the end of the month it rises in the day time. In May and June the sun is very powerful, and the atmosphere hot and dry. The heat is intense, though not worse than in most plain districts, and is not much less during the night than in the day. The first fall of rain brings an immense relief and somewhat cools the air, and for the next three months rain and strong sun succeed each other, the atmosphere being saturated with moisture, at all events in the upper portions of the district. October has hot days and mild rights; and for the five months following it the air is cool and bracing, the nights of December and January being intensely cold. Chill winds from the north often blow for days in January and February, blighting the crops. In the lower part of the district, and more especially in the "jangal" villages, the hot weather begins much earlier and the air is dry all the year round.

18. As might be expected the moist Bet tract is very nuhealthy. During the months August to November fever Health. is very prevalent; and, if the year is bad, one can scarcely in October find an able-bodied man not suffering from it. The villages have during this season the appearance of being deserted; and the same answer is returned in every village to one's inquiries as to where the Lambardárs are, "táp se digiá" (he is down with fever). Ludhiána, and all the towns and villages along the high bank and over the Budha Nála are not better off. In Máchiwárah, Bahlolpur, Kum, Bhundri, &c., it is quite part of a man's life to have an attack of fever once in the year. The severity of these attacks varies, but the general result is a weakening of the constitution, which makes the people less able to resist the effects of other ailments; and it will be found that the dwellers in the Bet and along the high bank are much shorter lived than those of the more inland tracts. In some years the fever is of a bad type, and then it plays havoc with the people. Mr. Davidson, the former Settlement Officer, speaks in paragraph 10 of his report of being frightened away from Kum by the number of dead bodies brought out for burial while he was there in camp. In 1878 there was a terrific mortality amongst the Kashmiris and other halfstarved members of the lower classes in the city of Ludhiána and also in the villages. The civil station is by no means a desirable residence during the months of September and October; but one appears to get away from the influence of the malaria by going even a short distance inland. The most healthy portion of the district is the south-west corner about Bassian and the "jaugal" villages, where the climate is always dry and the water much purer. The people of these parts are generally exempt even from fever, and enjoy excellent health. I do not think that the district can claim any special diseases as prevailing. Phthisis and mania are, I am told, the most common. Neither Ludhiána nor any one of the other towns has suffered from an epidemic of cholera since that of 1872; and such visitations are rare. I do not think that ophthalmia is so prevalent as Mr. Davidson represents it in his ninth paragraph.

CHAPTER II .- HISTORICAL.

- 1 There are no signs to indicate that the Ludhiana district has been the scene of any great physical Physical changes. change. The Satlej appears always to have been confined to its present valley, though within this it has shifted about a good deal. The last change took place about 100 years ago, when the river abandoned its course under the ridge that separates the lowlands from the Dhaia, where now the Budha Nala flows; and transferred to this side the whole of the present Bét tract, which was then for the most part uninhabited. The towns of Bahlolpur, Máchiwárah and Ludhiána, and the old villages, such as Kum and Bhundri, which lie on the top of the ridge, were built on the bank of the river. is nothing to show that the uplands were ever traversed by streams unless, indeed, the sand belts of the Samrála tahsíl, to which I have referred in paragraph 9, mark the course of hill torrents, long since dried up. There are no local traditions indicating that such is the case, but this source of information would not go back more than 300 or 400 years. It is clear that such changes as have taken place in the appearance of the country are the work of man and not of nature.
- Few districts possess greater historical interest than Ludhiána, which must from its situation have been Importance of the disat all periods the scene of most important events. trict in history. Lying as it does on the high road from Central Asia, it would be crossed by each successive wave of conquest or immigration; and, when we come to historical times, we find that some of the most decisive conflicts for empire took place in this neighbourhood. The Panjab was always un outlying province of Hindustan; and its loss was not fatal; but, once across the Satlej, an invader had nothing between him and Delhi. Perhaps the greatest interest attaches to the country as the scene of the struggles between rising Sikhism and the Mahomedans; and when at the beginning of the present century the English power extended northwards till finally we succeeded to the empire of India, the Satlej was fixed as the limit of our territories; and Ludhiána was for nearly half a century our frontier garrison at the point where we were in contact with the only remaining independent power, that of the Panjáb.
- Early history: Hindu dearth of materials on which to found anything resembling history. Mr. Tolbort writes: "I presume that it formed a portion of the kingdom of Magadha. Sunet, Tihára, Machiwárah and Bahlolpur date from the Hindu period. Itis said that Máchiwárah is mentioned in the Mahábhárat, and that Bahlolpur formerly bore the name of Muhabatpura." But, as he points out elsewhere, there are many Máchiwárahs.

It is possible that antiquarian research may give us some information,
but at present it has been applied only to the
mound at Sunet, a village three or four miles west

of Ludhiána. This mound is of very considerable extent, and clearly marks the site of an important city. It was visited by General Cunningham in 1878-79, and the result of his inquiries will be found at pages 65-67, Vol. XIV of the Archæological Survey. General Cunningham examined bricks, one or two sculptures and a number of coins; and I will quote his conclusious from an examination of the last: "From these coins the following facts may be deduced with almost absolute certainty:—

"(1.)—The town of Sunet was in existence before the Christian era as evidenced by the coins of Uttamadatta and Amoghabhuti. It continued to flourish during the whole period of the dominion of the Indo-Scythians, and of their successors who used Sassanian types down to the time of Samanta Dewa, the Brahmin King of Kabul and the Panjáb.

"(2.)—From the total absence of coins of the Tomárá Rájas of Delhi, as well as of all the different Mahomedan dynasties, it would appear that Sunet must have been destroyed during one of the invasions of Mahmud of Ghazni, and afterwards remained unoccupied for many centuries."

There are various legends about the destruction of Sunet, all of which represent the last Baja as living on human flesh and as owing his downfall to not having spared the only child of Brahmin widow. Mr. Tolbort appears to think that the town was overthrown by an earthquake. However this may be, it is likely that Sunet was the head quarters of some Hindu kingdom, small or great; but more we cannot tell.

Current tradition identifies Tinara in the north-west corner of Jagraou tabail with the city of Varat mentioned in the Mahabharat; and this is said to have been its name up to Mahomedan times. It was a place of some importance under the Mughals; but the old town has long since disappeared into the river which ran under it; and the present site is at some distance from the former one. Tihara may have been the capital of a small Hindu kingdom. There was also a city called Mohabatpur close to Bahlolpur; but of this, too, all traces have disappeared.

It is quite possible that in Hindu times the country was to some extent inhabited by a nomad people, and that there were a good many towns and villages along the banks of the river; but they and the races that dwelt in them have long since disappeared, perhaps in the time of the early Mahomedan invasions when the country was overrun by plundering Biluchis and other tribes. The ancestors of the present agricultural population certainly immigrated within the last 700 or 800 years. The Rájputs were the first settlers, and came from the south. They say that in the reign of Shahab-nd-din Ghori (A.D. 1157) their ancestors found the country all waste, and obtained from the Emperor the grant of a large tract of land along the Satlej, in which they settled. Their villages are almost all found along the ridge over the old course of the river, or in the valley beneath. They were followed by the Jats who mostly came from the same direction as the Rájputs, and hegan to settle in the uplands 400 or 500 years ago, first in the eastern parts, and much later in the west, tabsil Jagráon, &c.

History under the Pathán dynasties: founding of the town of Ludhiana and first settled Government of the country under the Lodis.

There is no information about the district during the earlier Mahomedan invasions; and it is not till the time of the Lodis that the name is mentioned. The local history of Bute Shah, which is, I believe, generally very reliable, gives the following account of the first attempt to establish a

settled government in these parts:-In the reign of Scennder, son of Bahlol Lodi, the people about Lidhiana were oppressed by the pluudering Biluehis, and applied to the Emperor for assistance. Secunder, in answer to their prayer, sent two of his Lodi chiefs, by name Yusaf Khán and Nihang Khán, with an army. These chiefs fixed on the present site of the Ludhiana city, which was then a village called Mir Hota, as their head-quarters, and restored order in the country about. Yusaf crossed the Satlej to check the Khokhars who were then plundering the Jalandhar Doáb, and settled at Sultanpur. Nihang Khán remained at Mir Hota as the Emperor's lieutenant; and called the place Ludhiána. He was succeeded by his son and grandson. The latter, Jelal Khan, built the fort of Ludhiana out of the bricks found at His two sons partitioned the country round about Ludhiána, which was then lying waste, amongst the people of the town, and distributed them in villages. In the time of Jelál Khán's grandsons, Alu Khán and Khizr Khán, the Lodi dynasty overthrown by Baber; and the Lodis of Ludhiaua sunk to the position of ordinary subjects of the Mughal empire. They are said to have lived close to the fort for many generations, but all traces of them have now disappeared, and even the tombs of Nihang and his immediate descendants have been lost sight of, although they are said to have been standing some years ago. Without vouching for the accuracy of this account, I should say that the founding of the city of Ludhiána, and the first systematic attempt to people the country about it, date from the reign of the Lodi dynasty, who held the throne of Delhi from 1450 to 1525. Under Bahlol Lodi's "beneficent administration the prosperity of the country reached its summit, and the limits of the empire were extended to the Indus"—(Marshman); and the reign of his successor, Secunder, was a most prosperous one.

The progress of the country does not appear to have been impeded by the change of rulers; and the Under the Mughal Em-Mughals established a strong Government at pire. Sirhind, to which Ludhiána and the country about it were attached as a mahal or parganah. Sirhind, with the rest of the empire, passed into the hands of the Sur dynasty; and it was at the town of Máchiwárah, 25 miles east of Ludhiána, that Humayun fought the battle with Seeunder Sur, which restored him to the throne of Delhi in 1555. It is to the reign Akbar. of Akbar (1556-1605) that most of the people in the eastern part of the district ascribe the advent of their aucestors and the founding of their villages; and it is most probable that before the commencement of the 16th century there were only a few villages scattered over the district (mostly Rajput), and that the great immigration of Jats, who occupy the whole of the uplands, began under the settled rule of the Lodis and continued during the whole of the 16th century. The Ain Akbari enumerates the following maháls (or parganalis as we should call them):—Tihára, Haṭnr, Bhundri, Ludhiána, Máchiwárah and also Pael and Duráha. The first three are still considerable villages in Jagráon tahsíl. The town of Pael and the village of Duráha are situated in Patiála territory between Ludhiána and Samrála; and it is clear that these seven maháls, which were in the Sirhind division or "Sarkár" of the Delhi Province or "Subah," covered most of the present Ludhiána district and the adjoining parts of Patiála territory.

24. During the century and a half which followed the death of Akbar historical interest centres for this part Rise of the Sikhs and deof the country in the rise of Sikhism as a cline of the Empire. power, and the constant struggles between the followers of the Gurus at first and latterly the Phulkian and other Sikh chiefs on the one hand, and the local representatives of the empire on the other. The life of Nanak was contemporary with the reign of the Lodi dynasty : and Hargovind, the sixth Guru, was engaged during the latter years of Jehangir's reign in petty warfare with the imperial troops. Aurangzeb ascended the throne in 1657, and the ninth Guru, Tegh Bahádar, was murdered by his orders at Delhi in 1675. Govind Singh, the last of the Gurus, succeeded Tegh Bahádar; and under him commenced the long struggle between the Cis-Satlej Sikhs and the Mahomedan Governors of Sirhind, which was only a part of Aurangzeb's persecution of the rising sect. This district, with the adjoining country to the south, was the scene of many of the great Guru's wanderings and encounters with his enemies; and it was in Sirhind that his wife and children were murdered about the year 1700a deed that has made the place for ever accursed to all true Sikhs. It is probably to the bigotry and persecution of Aurangzeb (whose memory the Sikhs to this day hold in such detestation that they never refer to him otherwise than as "Ranga") that we should ascribe the union of the followers of the Gurus into a militant power with one common object. Aurangzeb died in 1707 and Govind Singh in 1708. The latter was succeeded as leader of the Sikhs by Banda, under whom their arms were at first attended with success, the imperial troops being defeated and Sirhind sacked in 1709. But, although they twico overran the country between the Satlej and the Jamna, they were finally dispersed, and Banda taken and executed in 1716. For a generation after this event the Sikhs were much depressed and persecuted; and it was only when all energy had departed from the empire that they were able to raise their heads again. From this time the struggle was continued by the Phulkian and other chiefs, who saw their way to establishing kingdoms for themselves on the ruins of the empire, now tottering to its fall. Ala Singh, the founder of the Patiala house, succeeded his father Ráma in 1714; and was a contemporary of Rai Kalha (II) of Pai. kot, under whom the Rais of Raikot, who had hithorto held the lease of a considerable tract of land from the emperors (see history of the

family in Chapter III), first asserted their independence. The district as now constituted cannot be said to have a separate history of its own during these times; and it would be impossible for me to detail here in full the conflicts between the various claimants for the territory which now makes it up. The principal actors in this scene were the Rai, Rája Ala Singh of Patiála and the representative of the Delhi Empire at Sirhind. In 1741 we find a combination of the two last against Rai Kalha, who had been endeavouring to throw off the Imperial authority. Rai Kalha was defeated and chased out of the country; but he soon recovered the territory which he had hitherto held as a fief of Delhi. The alliance between the Sikhs and the imperial troops lasted for a very short time; and the Rai was able to extend his territories unopposed, there being plenty of room for him to do so at the expense of the empire without danger of interfering with schemes of the Sikh chiefs. In a foot-note to page 60 of the "Panjáb Rájas" is given a short sketch of the history of the Rais, and it is said that they got possession of the town of Ludhiána in 1620; but this is evidently a mistake. The town and fort of Ludhiana did not fall into the hands of the Rais till about the year 1760 A.D.

25. The invading army of Nadir Shah Durani crossed the Satlej at

Durani invasions: to the taking of Sirbind by the Sikhs (1738-1763.)

Ludhiana, which was then on its banks, and marched through the district along the Imperial highway connecting Lahore and Delhi, the course of which corresponds with that of

Nádir Sháh is said to the present Grand Trunk Road and Railway. have ordered a general massacre of the inhabitants of Ludhiana on account of some petty fault; but it appears doubtful if he did. Ahmad Shah entered India on his first expedition in 1747. On reaching the Satlej at Ludhiana, he found his passage opposed by the son of the emperor and the Vazir, Kamardin, with a large army which had advanced from Sirhind. Almad Sháh, adopting the usual Duráni tactics, made a long night march up the right bank of the river; and, crossing about Máchiwárah or Bahlolpur, endeavoured to throw himself between the Vazir and Sirhind. The two armies came face to face on a sandy plain between the villages of Manupur, Barwali, &c., a few miles to the northeast of Khannah, in the Samrala tahail. The Imperial troops took up a strong position from which the Duráni could not dislodge them. Desalory fighting went on for many days, and in one of the skirmishes Kamardin was killed. His son, the distinguished Mir Mannu, was equal to the occasion; and, seating the body of his father on an elephant, paraded it before the troops. Alimad Shah had finally to retire discomfited. is said by the villagers about that the loss on both sides was very heavy; and that for a long time the stench of the dead bodies made the cultivation of the fields impossible. To the subsequent invasions of Ahmad Shah no resistance was attempted by the Imperial troops in Sirhind: but his armies were constantly harassed by the Phulkian chiefs and the Rais. It was some time about 1760 that the Rais were permitted by him to take possession of the town and fort of Ludhiana and to extend their power over the country about. In 1761 Zain Khan was appointed by Ahmad Sháh Governor of Sirhind. In the following year there was

a formidable combination against Zain Khán of all the Phulkian and other Sikh Cis-Satlej chiefs, assisted by numerous bands of Sikhs from the Mánjha. Ahmad Sháh heard of this at Lahore; and, marching to the Satlej in two days, he crossed at Ludhiána and fell npon the allies a short distance to the south of it* just as they were attacking Zain Khán. The Sikh army was cut to pieces, and the fugitives pursued to a great distance. This disaster (called the "Ghaln Ghára," or great massacre) does not appear to have had much effect on the Sikhs, for in the following year (1763) they were able to bring together a large army composed of the Cis-Satlej Sikhs, aided by bodies of their co-religionists from across the Satlej. Zain Khán was defeated and slain; and the Sikhs, following up their victory, took possession of Sirhind which they levelled with the ground.

With the fall of Sirhind vanished the last vestige of Imperial control over that portion of the empire of Partition of the country which it was the head-quarters; and when in the after the fall of Sirhind. next year Ahmad Shah passed through the country he recognized this by appointing Raja Ala Singh of Patiala to be Governor. In 1767 Ahmad Shah reached Ludhiana on his last expedition into India; but got no further. He confirmed Amar Singh, the grand-son of Ala Singh, in the Government of Sirbind, and gave him the title of Maharaja; and from this time the Sikhs and other chiefs who had taken possession of the country were left alone to settle The Imperial authority had to the last been maintaintheir own affairs. ed over most of the country lying between Ludhiana and Amballa. and round the head-quarters of the Sarkar or division. On the fall of Sirhind the whole of this rich tract fell into the hands of the Phulkians and their Manjha allies. The present Samrala talisil and a small portion of the east of Ludhiana were partitioned between the latter, each chief and confederacy seizing as many villages as they could. The eastern boundary of the territory of the Rais had in the few years preceding the capture of Sirhind been quietly advanced eastwards from Badowál, Dhándra, &c., so as to include the town of Ludhiána and the whole of the villages in the uplands to the south and east of it to within a few miles of Machiwarah. Their northern boundary was the river Satlei, which then flowed under the high bank along the present course of the Budha. The low lands opposite them were held to the south of Ludhiána by the Kákar Sardárs and Diwán Mohkam Chand, and to the north by Tára Singh Ghaiba (also a Kákar). There was no Bét on The Maloud Sardárs had already established themselves in this side. the south of Ludhiána tahsíl (the jungal villages and the country about Malond); and Sudha Singh, Gil, an adventurer from Loháru in the Ferozepur district, secured a few villages about Sálmewál. these two exceptions the whole of the present uplands of the Jagraon and Ludhiana tahsils belonged to the Rais; and they had also a considerable part of the Moga and Zira tahsils of Ferozepur, in all 1,360 villages, it is said. The Samrála tahsíl was divided as follows: Sudha

^{*} The battle took place at Barnála in Patiála territory, 40 miles south-west of Ludhiána.

Singh, Bájwa, seized Máchiwárah and the eastern portions of the Utálan parganah; and the western half fell into the hands of the Ladhran Sardárs. In parganah Khannah some villages were held by a servant of Tára Singh Ghaiba, who subsequently set up for himself at Khannah; and the rest was divided between the Khéri, Bhari, Ajner, Jabu mazra, Sardárs and members of the Soutiwála and Nishánwálá confederacies. Jassa Singh, Ahluwália, got 30 or 40 villages round Isru. Under the Rais the Garewáls of Raipur and Gujarwál had some sort of local authority in the villages about; but they were only "malguzárs" or contractors for the revenue.*

Twelve years after the fall of Sirhind, about the year 1785 A.D., occurred the change in the course of the Satlej, to which reference has already been made; and the whole of what is now the Bét of the

district came to this side, a tract upwards of 50 miles in length and five or six in width. It was at the time in the possession of the Kákars, Tára Singh Ghaiba, whose head-quarters were at Rahon, having the upper part, and his brethren, the lower portion, what is now the Nurpur parganah; and these chiefs retained their hold in it, except where Sudha Singh of Sáhnewál seized some uninhabited portions in front of his upland villages, about Matewarah. There was then very little cultivation in the tract, the villages being few and far between. Most of the present ones owe their foundation to these chiefs, and date it from within the last 100 years.

The Rais had a number of forts at different places, and each Sikh chief erected one or two according to the size of his possessions. This partition of the country appears to have been recognized by the various parties to it; and during the dast forty years of the 18th century they do not seem to have attempted any encroachment on each

other's territories, but to have gone on very amicably.

27. The condition of the country during the latter part of the 18th century was one of considerable prosperity. The rule of the Rais is still spoken of as being very mild; and it is said that they fixed only one-fourth of the produce as their due. The peasautry were probably

only one-fourth of the produce as their due. The peasantry were probably very glad to have the struggle, which had been going on for so long, finally ended; and the minor chiefs appear to have done their best to encourage the spread of cultivation. They took a full revenue in kind, and exercised a good deal of petty tyranny; but one does not hear much of exactions in the early years of their rule; and they had scarcely time to engage in quarrels amongst themselves before the arrival of Ranjit Siugh. The Dháia villages mostly date their founding from a much earlier period; but the Bét tract at the time of its transfer to this side of the river was mostly waste; and the greater part of the present small villages owe their origin to the Kåkar and Ghaiba chiefs. One hears of few instances in which the proprietary body were at this time driven to desert their lands by the oppression of the rulers. In

^{*} These Garewals were Jats who obtained the lease of a number of villages under the later empire, and maintained their position till the invasion of Ranjit Singh n 1806 A. D. (also see para 50).

fact the condition of the people was very much better at this time than it was subsequently under the followers of Ranjit Singh.

The peace which the country enjoyed after the fall of Sirhind

was interrupted by the appearance on the scene of Sikhs from of Bedi Sáhib Singh of Una. This fanatic across the Satlej: the Becrossed the Satlej in 1794 A.D., with an army of Sikhs from the Jalandhar Doab, proclaiming a religious war against the Patháns of Maler Kotla. He was turned aside from Maler Kotla by the Patiala chief; but in 1798 again crossed and made a smilar attack on the Rais of Raikot. Rai Aliás was a minor: but his agent Roshan, Gujar, made a good stand against the Sikhs at Jodh, ten miles south-west of Ludhiána. Roshan was killed in the fight, and the Rais army dispersed; but the Phulkian chiefs, who had always been on good terms with their Mahomedan neighbours of Kotla and Raikot, and who had no intention of allowing the Bedi to establish himself in their midst, now came to the assistance of the Rai, and dreve the invaders out of most of the villages seized by them. Bedi thereon invested the fort of Ludhiana; and the Rai called in the adventurer George Thomas from Hansi. On Thomas' approach the Bedi retired across the river, and ceased to trouble the country.

29. The capture of Delhi in 1803 brought the English into direct

Máharája Ranjít Singh's invasions and amexations; extinction of the power of the Rais: division of the country.

contact with the Cis-Satlej chiefs from the south, and about the same time Maharaja Ranjít Singh, having extended his dominions to the north bank of the Satlej, began to think of conquest beyond it. The disputes between the

states of Patiála, Nábha, and Jhind afforded him the desired opportunity, and in July 1806 he crossed the Satlej with an army. The last of the Rais (Alias) had been killed while hunting in 1802; and the family was represented by his widow, Bhág Bhari, and his mother, Nurul Nisa. No opposition was offered to Ranjit Singh, who took possession of the town and fort of Ludhiana, and made them over with the villages about to his nephew, Raja Bhág Singh of Jhínd. He proceeded to Patiala on pretence of settling the disputes, and returned to the Panjáb via Amballa and Thanesar. In the following year (1807) he was again called in and, crossing at the Hariki Ford (Sabraon), he proceeded to Patiala, and thence marched into the Amballa district, where he besieged and took Naraingarh. During these two expeditions Ranjit Singh, besides stripping the Rais of all their territory save two or three villages given for maintenance, also annexed the possessions on this side of the river of Sudha Singh (Sahnewal) which were held by his widow, Ráni Lachmi; as well as of Tára Singh Ghaiba, also held by a widow, together with the Kákar villages. The spoliation of the Ghaiba family was perhaps the most shameless of all these transactions, as Tára Singh died in this very year while accompanying the Maharaja on his expedition. These conquests were divided by the Máharája between himself and his adherents. Rája Bhag Singh of Jhind got about 100 villages round Ludhiana and in the Bassian ilaqa; Sardár Fatteh Singh, Ahluwália, (ancestor of the present Kapurthala chief) nearly the whole of the Jagraon tahsil and the Dakha parganal;

Sardár Gurdit Singh of Ládwa, a number of villages about Badowál; Bhái Lál Singh of Kaithal, 16 villages about Gujarwál; the Nábha chief, some villages in Pakhowal, while the men of less note, such as the Sodhis of Nandpur, got jagirs. Diwan Mohkam Chand was put in charge of the country reserved by Ranjit Singh for himself.

Interference of the British Government: treaty of 1809. British Cantonment established at Ludhrána.

By this time the British Government had made up its mind that the further aggressions of Ranjit Singh on this side of the Satlej should be stopped, and the chiefs taken under our protection. Mr. Metcalfe was despatched as agent to conclude a

treaty with Ranjit Singh, and joined his camp at Kasur in September 1808. Immediately after this Ranjit Singh crossed the Satlej on his third invasion and attacked Faridkot and Maler Kotla, notwithstanding the remonstrances of our envoy. After accomplishing his objects the Maharaja returned to Amritsar, and there Mr. Metcalfe communicated to him the decision at which the Government had arrived—that all conquests made in his first two expeditions might be retained, but that for the future the country between the Satlej and Jamua was to be considered under our protection, and all-territory seized during the last expedition restored. To support this demand a force under Colonel Ochterlony was moved towards the frontier, and on February 18th 1809 the troops reached Ludhiana, and took up a position there, which was destined to be permaneut. It is matter of history how Ranjit Singh finally yielded to all our demands and entered into the treaty of 25th April 1809, by which he and his dependants were allowed to retain all territory on this side of the Satlej acquired in the expeditions of 1806 and 1807. The occupation of Ludhiana as a military outpost was intended to be temporary only; but the troops were never withdrawn. We had by the treaty taken under our protection all the Cis-Satlei chiefs, except those who had been brought into the country by Ranjit Singh; and the management of our concerns with them required the presence of a Political Agent and a force at this point.

31. General Ochterlony held political charge at Ludhiáná from 1809 to 1815, and was succeeded by Captain History of the country from 1809 to 1835; our first Mnrray, after whom came Sir Claude Wade acquisition of territory. (1823-38). Sir D. Ochterlony and Sir C. Wade had the full powers of agents, but otherwise the post was held by an assistant. It was General Ochterlony who gave the fort its present form, Raujit Singh setting up that of Philonr to face it after the conclusion of the treaty of 1809. In 1835 Rája Sangat Singh of Jhínd died, and with him the direct line of the house failed. The escheat of the whole Jhind territory, or at least of all bestowed on Raja Bhág Singh by Ranjit Singh, was claimed by the latter; but it was finally decided that Sarup Singh, a collateral of the late Raja, should succeed to the ancient possessions of the family, those held by Raja Gajpat Singh, and that all subsequent acquisitions should escheat to the British Government unless they had been granted by the Maharája after the treaty of 1809, ("Panjab Rájas" p. 34, et seq). By this decision we acquired npwards of 80 villages round Ludhiana and in the neighbourhood of Bassian with a revenue of about Rs. 1,00,000, and

these formed the nucleus of the present district, the administration being carried on for the next ten years by the Assistant Political Agents at Ludhiána, a list of whom will be found at p. 306 of the Panjáb Rájas, and also in para. 35 of the former report by Mr. Davidson.

- Ranjit Singh died in 1839, and his death was followed by six years of disorder in the Panjáh. It would Circumstances leading to be ont of place here to give a detailed account the first Sikh war (1835-45). of the circumstances which led to the ontbreak of the first Sikh war; but a short notice of our position of Cis-Satlej is necessary, as the neighbourhood of Ludhiána was the scene of part of the strnggle between us and the Khalsa army, and onr hold on the place was of the first importance throughout. Up to 1838 Ludhiána was our only outpost on the Lahore frontier, but in that year a large force was assembled at Ferozepur for the invasion of Afghanistan, and the latter place somewhat threw Ludhiána into the shade, being within easier reach of the capital of the Panjab. Ferozepur and the territory round it had lapsed to us on the death of Ráni Lachman Kour in 1835, in much the same manner as the Ludhiana territory had. It was about the year 1838 that Sir George Clerk, the Governor-General's Agent at Amballa, built the large circuit house still standing at Bassian. a position from which communications could readily be maintained with both places and control exercised over the Phulkian chiefs. the withdrawal of the army from Afghanistan in 1842 our position in the Cis-Satlej territory west of Amballa was this: We had two patches of territory on the Satlej in the neighbourhood of the garrisons of Ludhiana and Ferozepur, which were completely isolated, and surrounded by the possessious of the Lahore Darbar and its feudatories. I have endeavoured to show on map No. IV accompanying this report the division of the country at the time between the various States and petty chiefs.
- 33. In December 1845 the Khalsa army crossed the Satlej, and the first Sikh war commenced. The chief in-The Satlej Campaign. terest centres round Ferozepur, which was the main point of the Sikh attack; and there the bulk of our force collected. the troops for the most part marching direct via Bassian, and Ludhiána was left with a mere garrison. But the position was not one likely to be neglected, as it covered the communications in the rear of our army; and its importance was probably appreciated by the Sikhs, for in January 1846 their general, Ranjodh Singh Majithia, created a diversion by appearing with an army at Philour and crossing the Satlej. His force consisted of 10,000 infantry with 60 guns and some cavalry. His presence on this side of the Satlej was fraught with the greatest danger to us; as in a struggle with the Lahore Sikhs we could at most expect little better than neutrality from their co-religionists on this side. The position of such chiefs as had territories on both sides of the Satlej scarcely left them a Nihal Singh, Ahluwalia, tried to play a double game. His troops fought against us about Ferozepur and a considerable body of

them joined Ranjodh Singh near Ludhiána, while their master was professing friendship to us, and saying that he had no power over them. The Ládwa chief, whose head-quarters were at Badowal, and who had everything to lose by such conduct, openly went over to Ranjodh Singh while he was still on the Jalandhar side of the river. Such was the weakness of the Ludhiána garrison that he was able before crossing to burn a portion of the cantonments with impunity; neither was any attempt made to bar the passage of Ranjodh Singh's army, which had our communications at its mercy. Such a state of affairs was not likely to last long; and Sir Harry Smith was soon despatched from Ferozepur with a force of about 4,000 men to keep open the road between that place and Ludhiana. On January 20th he reached Jagráon, while Ranjodh Sing occupied Badowal Action at Badowal. between the British force and its destination. Sir Harry Smith's object was to effect a junction with the Ludhiana garrison without coming into collision with the enemy, and he accordingly attempted to pass to the south of their position. But his flank was attacked by the Sikhs with great violence near Badowál; and our troops, wearied with a long march, were for some time in considerable danger. They were extricated from the position with a loss of 200 men and nearly the whole of the baggage, and brought into Lu-The result of this action of January 21st was most damaging to our prestige; but the effects had scarcely time to be felt before they were effaced by the complete success of our arms. On the 22nd January, Ranjodh Singh moved to the village of Bhundri on the Satlej, where he was joined by some regular troops of the Lahore army, his strength being then raised to 15,000; and here he remained quietly for a week, having, as he hoped, a clear line of retreat, and commanding the road along the Saflej between Ferozepur and Ludhiana, General Smith was also reinforced, and on the 27th January marched towards the position of the Sikhs. He found them posted in the low close to the Satlej with their right lande Battle of Aliwal. resting on the village of Bhundri, which is on the high bank, and their left on Aliwal, close to the river. East of Bhundri the high bank or ridge, which separates the valley of the Satlej from the uplands, sweeps inwards in a semicircle to the distance of five or six miles, crowned with villages at intervals, and leaving a wide open plain between it and the river. It was across this plain that the British army on the morning of January 28th moved to the attack, the capture of the villages of Aliwal, the key of the position, being their first object. The Sikh guns were as usual well served; but Aliwal was in the hands of inferior troops, and the resistance was spiritless. By the capture of Aliwal the Sikh left was turned; but round the village of Bhundri their right, composed of trained and enthusiastic Khálsa troops (Avitabile's Regiments), made a most determined stand, and the whole battle is still called by natives "the fight of Bhundri." The most gallant part of the action was the charge by the 16th Lancers of the unbroken Sikh infantry, who received them in squares. Three times the Sikhs were ridden over, but they reformed at once on each occasion; and it was not till the whole strength of our

army was brought to bear on them that they were at length compelled to turn their backs. The Sikh troops were either driven across the river, in which many of them were drowned, or dispersed themselves over the uplands. Our loss was considerable, 400 men killed and wounded; and a tall monument, erected in the centre of the plain to the memory of those who fell, marks the scene of the action.

The battle of Aliwal cleared the upper Satlej of our enemies,

rendered our communication sure, and enabled Close of the Campaign and Sir Harry Smith to join the army of the lower annexation of the Cis-Satlej - Satlej with his victorious force. On the 11th of February the crowning victory of Sabráon was won, and the first Sikh war ended. The abrogation of the treaty of 1809, and the annexation of all Lahore territory on this side of the river were the natural results of our success; and it remained to settle accounts with the Cis-Satlej chiefs, who had either been in active opposition to us, or had withheld their assistance when it was most needed. The Ládwa chief forfeited all his possession, and the Ahluwália chief all on this side, while the Nábha Rája lost one-quarter of his territory (for a detailed account of these transactions see the "Rájas"). Such of the minor chiefs as had not openly joined the enemy were maintained in their possessions; but these were included in our territory as jagirs, independent power being given only to the Phulkian Rájas and the Maler Kotla Nawabs. Where the chief had gone against us, his villages were absolutely annexed. From these acquisitions was formed in 1847 the present Ludhiana district after a trial of Badni as headquarters for a short period. Trifling changes have since occurred; but the map to which I referred in paragraph 32 will show whence the various parts of the district, as it is now constituted, were acquired. For a full account of the treatment of the petty chiefs whose territories were not annexed I would refer to pages 186-200 of the "Panjáb Rájas." The police powers and the right to levy transit duties were taken away from them at once; and, when the whole Panjab became ours in 1849, they lost all civil, criminal and fiscal jurisdiction, a cash demand being at the same time substituted for their right to an nadefined share of the produce, and they were thenceforth "considered as no more than ordinary subjects of the British Government, in possession of certain exceptional privileges." A cash commutation was also fixed in place

35. To the work of conquest succeeded that of settling the admission from 1846 to 1857. In passing I would mention the calamity which occurred to the 50th British Regiment shortly after its return to canton-ments. It had suffered severely in the battles about Ferozephr and by sickness during the campaign, and was enjoying a well earned rest, when in a dust storm one of the principal barrack buildings fell, crushing to death 210 men, women and children. When in 1849 we annexed the Panjáb, Ludhiána ceased to be of any importance as a military

of the levies which they were bound to furnish for the service of the

paramount power.

station. The cantonments were finally abandoned in 1854, and since that time the only troops permanently posted have been a portion of some native regiment as a garrison for the fort. During the ten years succeeding the Satlej campaign Ludhiána is to be pronounced happy as having no annals. The work of administration progressed steadily, and the resources of the country developed rapidly under the security given by our rule. A summary assessment in 1846-47 of the new acquisitions, was followed in 1849-53 by a Regular Settlement of the whole district, the success of which it will be for me to show in another part of this report. Cultivation increased, and trade began to flourish in consequence of the removal of the transit duties, the improvement of communications, and the security to life and property which resulted from our government.

36. Although Ludhiana had ceased to be a cautonment at the time of the outbreak of the Mutiny, it The Mutiny (1857). lay on the route to Delhi of the Panjab mutineers, and also of the succours sent by Sir J. Lawrence; and there were busy and anxious times for the Deputy Commissioner, Mr. G. H. Ricketts, and his assistant, Mr. Thornton. The former of these has left an account of the measures adopted in anticipation of the arrival of mutineers or of a local rising, and has detailed the course of events during the early months of the mutiny. The fort was garrisoned by a detachment of the 3rd Native Infantry from Philour; and this regiment also supplied the guards at the treasury, jail, &c. It was known to be disaffected; and Mr. Ricketts had called for and obtained assistance from the Nabha and Maler Kotla States and from the principal jagirdars of the district, the latter of whom responded to the call with the greatest alacrity, and supplied horsemen and foot, who were employed on patrolling the roads, furnishing guards, &c. Nabha and Maler Kotla sent some troops and a couple of guns; and there was a small body of Rothucy's Sikhs with two English officers. The whole of the mouey in the Treasury had been removed to Philour, which was held by a detachment of an English regiment, the 8th*; and when on the 9th of June 1857 Mr. Thornton crossed the river on some business connected with it, he heard of the Jalandhar ontbreak. He hurried back, taking the precaution to cut the bridge of boats behind him. News of the outbreak also reached the Ludhiana detachment of the 3rd Regiment, who at once mutinied and seized the fort. The Jalandhar mutineers, finding their passage at Philour impossible, went three or four miles up the river and crossed. On hearing of this Mr. Ricketts with two or three companies of the Sikhs under Lieutenaut Williams, and the Maler Kotla and Nabha levies and two guns marched to oppose them. He found that they had just crossed in a large body and were on this bank near the village of Chuharwála. Although it was night an attack was at once made; but the levies appear to have bolted at the first shot, and Lieutenant Williams was wounded and several other casualties occurred, so that the

^{*} The Fort at Philour was at first held by the 3rd N. I., but they were replaced by English troops snortly before this.

little force had to retire before superior numbers, which they did without molestation. Mr. Ricketts and his men took up a position to the west of the city in the present kachery, I believe; and the mutineers next morning passed through the eastern part of the town. They were joined by their comrades from the fort; and, after plundering the Mission lines and opening the jail, went down the Maler Kotla road in great haste, dreading the arrival of a pursning force from Jalandhar. The rabble of the town, composed of Kashmiris and others, had risen and done some plundering, but the mutineers only remained for a few hours; and immediately on their departure order was restored and some of the rioters were executed. The Mahomedan Gujars of the Bet are the only people of the district who appear to have shown any disaffection, but it is in the nature of this tribe to be discontented. The Hindu Jats, who form the mass of the population, could have nothing in common with the mutineers, and were steadfastly loyal to us. Not a single instance of disturbance in any part of the district save in the town of findhiana is recorded.

The only event left to chronicle is the "mad attempt" by the Knkas in 1872. An account of the rise The Kuka outbreak, of this sect will be found in the next chapter. The proceedings of Ram Singh's followers had caused anxiety to Government for many years, and special precautions were from time to time taken to prevent large gatherings of them. Small disturbances occurred at the religious fairs here and there; and in 1870 "butcher" murders were committed in one or wo places, the rage of the Kukas being directed against the killers of kine. On the 13th January 1872 there was a meeting of Kukas at Bhaini, and a gang of about 150 of these, after working themselves up into a state of religious frenzy, started off under the leadership of two Jats of Sakroudi in Patiala territory. Rain Singh informed the police of their intention to do some mischief, saying that he had no control over them; but it was considered sufficient to see them out of our territory. They were armed with axes, sticks &c. only; and are said to have declared that the town of Maler Kotla would be the object of their attack. They went to Pael in Patiala territory without causing any disturbance, and re-appeared next day near to Malond, the sent of Sardár Badan Singh, on which they made a sudden onset with the idea, probably, of getting arms and money. They are said to have wanted the Sardár to lead them. In this attack two men were killed on each side and a few wounded, and the gang succeeded in securing three horses, one gun and one sword. No one joined them anywhere on their march, and they never numbered more than 150 men at the outside. They next proceeded to Kotla, which is nine miles distant from Maloud; and on the morning of the 15th made a sudden attack on the palace and treasury of the Nawab; but were driven off when the Kotla guards had recovered from their surprise, and pursued to Rarr in the Patiala territory, where to the number of 68 they surrendered to the Patiálá authorities. At Maloud and Kotla they had killed 10 men and wounded 17, white their own loss had been 9 killed and 38 wounded. On getting news

of the attacks on Maloud and Kotla Mr. Cowan, the Deputy Commissioner of Ludhiána, started for the latter place, and telegraphed for troops, which arrived soon after. Mr. Cowan executed by blowing from guns at Kotla 49 of the captured men, and the others were tried by the Commissioner (Mr. Forsyth).* Thus ended the Kuka outbrenk of 1872. If the Kukas ever had any plans for a rising they must have been completely upset by these in an proceedings of a small body of fanatics, rushing about the country armed with sticks and axes. The people of the villages through which they passed appear to have been scared by them, and the inhabitants of Rarr, where they were captured, deserted their houses in a body on the approach of the band. Of course Rám Singh and his doctrines were responsible for what happened; and he had become a danger to the State, as similar disturbances might be created at any time by his followers. Rám Singh was at once deported, and has remained a State prisoner ever since.

The district has few monuments of antiquity. Such places of interest as there are in the towns will be Antiquities of the district. referred to in the separate accounts given of the municipalities. In paragraph 21 I have detailed what information is available about the mound of Sunet. There are also mounds at several other places; but they generally mark the site of a parent village from which those about have taken their origin. Thus between Gujarwal and Phallewal the mound of Naiebad was the first settlement of the Garewals. As monuments of the Mughal empire, we have at a distance of two kos along the old Badshahi Road minars marking the distances; and a fine serai at every sixth or seventh kos. The minars are of masonry, and about 12 feet high. They are in a good state of preservation, but have no inscriptions. They are said to have been built in the reign of Shah Jehan. The serni at Ludhiana has long since disappeared, that at Douraha is in Patiala territory, while that of Lashkari Khan, about seven miles on this side of Khannah, is a magnificent building in very good preservation. The inscription tells us that it was built by Lashkar Kban in the reign of Anrangzeb. It is now seldom used by travellers since the Railway was opened. The serai at Khannah is now part of the town; but the walls are entire. There was a large "hazíra," or tomb, at Tihára of about the same date, but this was washed away by the river in 1868. The Sikhs erected forts at many places in the district, most of which were demolished in 1845. I have referred to the monument in the field of Aliwal. This has been recently repaired or rebuilt. The cemetery of Ludhiana is crowded with monuments of quaint design, remnants of the days when there was a large body of troops here.

CHAPTER III .- THE PEOPLE.

A.—Statistical.

Population of the district: urban and rural.

39. By the Census taken in February 1881 the population of the district is 618,835. Six towns make up a total of 83,052 as follows:—

^{*} This account of the outbreak is taken from the reports of Mr. Cowan.

Ludhiána	•••	•••	•••		44,163
Jagráon	***	***			16,873
Raikot		•••	•••	•••	9,219
Máchiwárah		***	***	•••	5,967
Khannah			•••		3,988
Balılolpur		***	***		2,842

and this leaves 535,783 distributed over 914 villages, giving an average of 581 for each village.

Increase in population.

40. The Census figures give us the following results for the three years in which an enumeration took place:—

Year o	f Census.		1855	1868	1881
Population	•••	s.	527,722	585,547	618,835

Taking these figures as correct, we find that there has been a steady increase which amounted to 11 per cent. in the first thirteen years, and to half that proportion in the next thirteen, the rate of increase having been the same in the towns as in the rural population. No safe conclusions can of course be drawn from the figures alone without consideration of the circumstances of the district at the various periods, and these I will proceed to notice. When we arreved the country after the Satlej campaign of 1845 we found it very fairly cultivated, for our predecessors, the Sikhs, had done their best to increase their revenues by encouraging agriculture; and all the States and Chiefs were under our own protection or that of Lahore. Petty fends were uncommon and But the Sikh revenue system was what there was general peace. we should call oppressive; and the rule of some of the chiefs was a mixture of tyranny and rapacity. Property in land was considered a burden, which often under a bad ruler became too heavy to be borne; and society must have been in an unsettled state owing to the frequent changes of rulers. In the same way there was a certain amount of trade; but it was checked by the transit duties levied at short distances by each independent chief, and by the general lawlessness. With our rule came perfect security to the husbandman and to the trader; and an immediate development of the resources of the country by the protection afforded to life and property and the opening out of communications. The increase in cultivation must have been very great in the few years that followed the Summary Settlement of 1847; but there are no details to show what it was. When the survey for the Regular Settlement was made in the years 1850-52, it was found that there was a proportion of 84 acres cultivated in each 100 acres of arable area; and a great part of what remained was brought under the plough within a short time after. Perhaps the best proof of the development of

agriculture is the immense fall in prices between 1850 and 1860. ruler had before that left the pleasant just enough to live on, and had taken most of his dues in kind; while the latter knew that the more he cultivated the more he would have to pay, and he had probably as much land under the plough as he could manage. The effects on the population of the development of resources that followed the introduction of our rule would take some time to show themselves; and would naturally appear between the years 1855 and 1868. There was not room for immigration on a large scale, the whole land being owned by the villages; and there was no tendency for settlers to come from any neighbouring district, for the whole country was in much the same condition. The increase of population was all inside the district. The margin of extension has long ago been filled up, the proportion of culturable to cultivated being now one in ten; and the prindential check on population has to some extent come into effect. There has been everywhere a sub-division of holdings, and in most parts of the district the scarcity of land has made itself felt. At all events amongst the Jats and Rájputs every man does not now marry as a matter of course, really I believe on account of the immediate expense; and in most families will be found one or two men who have remained single. It is undoubtedly the case that a state of things equivalent to polyandry prevails amongst the Jats, though it is not recognised as an institution: and the result is a distinct check on population. The Sirhind Canal has just been opened, and the productive power of a large part of the district will thereby be increased. The portions affected by it are those in which the population is now least dense; and it will be necessary for the present cultivators to call in others to their aid. But the whole of the land here also belongs to villages, and is mostly cultivated: and it is hard to say what the process of immigration will be, and whence the settlers will come. I doubt if the result will be to relieve the more thickly populated parts of this district of their surplus population. Except for this opening I should be inclined to say that the population of the district had arrived at the stationary stage, and that the rate of increase in the future would be at all events much smaller than in the past.

41. The number of persons per square mile is 450 on total area and

Density: Impossibility of strict classification of the population.

543 on cultivation (1:1 acres of cultivation a head), these averages being worked out on the area as surveyed in 1879-80 and the Census of 1881. But the bare figures give us no infor-

mation on the point which is of greatest importance, the pressure of population on the land; and we are driven to consider that constantly recurring problem of the classification, with a view to determine what proportion actually depends on agriculture. I have set down the urban population at 83,052; but in the case of each of the towns there is a large area attached and belonging to residents. Thus the area of Raikot is larger than that of any village in the district except one; and it would have, if there were no town, a village population of 4,000 to 5,000. So, too, Ludhiána and Jagráon have a number of separate village areas ("Taraf") attached to them, the agricultural population

living inside the towns. I calculate that the town population proper does certainly not exceed 60,000. We are then left with a rural population of 558,835; but this does not put us far ou our way. Combination of occupations is the rule amongst the non-proprietary population, and the recent Census could scarcely have been expected to give us a classification that could be relied on to show how much of this rural population should be set down as depending on agriculture, and how much on trade and manufacture. Indeed, such an arrangement is not possible with a society so constituted as that we have to deal with here. The whole rural population may be said in a sense to be supported by the land, for each village is for most purposes a separate community. All the implements of agriculture, the materials and furniture of the houses, and most of the ordinary clothing are produced in the village; and only a few articles of luxury, such as brass dishes, wedding clothes, &c., are purchased in the towns. The occupations of the various classes in the village hang together, so that they cannot well be separated. Thus the menial classes (takhán, h hár, chamár) are really the servants of the cultivator, helping him in his work by making and repairing his implements: and receive as their wage a share of the produce. They do little work for outsiders; and they very often combine with their hereditary occupation that of agriculture. Even the shop-keepers, who are not a numerous class in most villages, and occupy a very inferior position, being mostly of the "lun tel bechna" class (sellers of salt and oil), are only assistants to the cultivators, supplying them with salt and such necessaries as they cannot grow or make for themselves. We might say that the whole population, after deducting that properly belonging to the towns and subsisting by manufactures and industries quite separate from agriculture, depends on the soil; and I think that any attempt to determine what proportion of it is supported solely by agriculture must be mere conjecture. The density of the rural population calculated in this manner is 490 per square mile of cultivation, or 1.5 acres cultivated per head. This proportion varies greatly, as was to be expected, according to the agriculture of the district. Thus in the rich Samrála Bet, where the soil is very fertile and much of it yields two crops in the year, the proportion is 600; and in the Upper Dháia Circle of the same tabsil, where 40 per cent. of the cultivation is irrigated, it is 660: while in the sandy Lower Dháia tract, just over the Bét, it is only 467; and in the Jangal Circle of Ludhiána, with a rainfall of 17 inches and no irrigation, it is \$18. The following are the details of the three most thickly populated tracts of the district:

Asses	Persons per square mile cultivated,			
Bét Samrála	•••	•••		600
Upper Dháia Samrála	•••	•••	•••	660
Pawádh Ludhiána	•••			630

These proportions are as high as in most of the highly cultivated tracts of the province, although they are much below those of some parts of Hoshiárpur and Jalandhar. There ean be no donbt that in places there is to some extent a pressure of population, especially in the tracts named and in the eastern parts of Ludhiána tahsíl, Bét and uplands. This is not universal, but shows itself in the older and larger villages, where the process of subdivision of land has been going on longest. It is just in these very tracts where the cultivation is most elaborate, that the people are most tied down to their villages. Very few men of the Samrála tahsíl will be found in service. From his birth the agriculturist is bound to the land, which requires his every hour; and the last thing he thinks of is seeking employment of any other sort. There is no emigration to speak of, and the direction in which the excess tries to find an outlet is better cultivation and the spread of irrigation. But for the latter of these capital is required, and this is what the cultivator does not possess.

With the Assessment Reports I submitted statements showing the average size of the proprietary and culti-Size of proprietary and vating holdings; but these, as I pointed out, are tennecy holdings. quite unreliable. The holdings were of the "Khatauni;" and calculations based on them are necessarily valueless. Thus A and B hold land separately, having divided it, and also have some in common. A has mortgaged a couple of fields to two other proprietors, and B may have done the same. Each of these facts is shown as a separate holding. Or again a proprietor cultivates his own land, and has also rented land from another; and he would appear both as a proprietor and as a tenant. Thave now done my best to find out what the actual size of the holdings in the different tabsils is. I have taken the total of all land cultivated by proprietors, whether it is their own or that of other proprietors, and divided this by the total number of proprietors whose names appear in the Khewat. Only those are shown as tenants who do not own land. The result is as follows:

Name of Marie		Кнеч	VATDARS.	OCCUPAN	CY TENANTS.	TEFANT	S AT WILL.
NAME OF TAHSIL.		No.	Area cultivated by.	No.	Area cultivated by.	No.	Area cultivated by.
Samrála	•••	22,617	136,300 6	1,059	4,160 4	2,388	6,816
Ludhiána		51,308	321,496 6	3,903	11,582	6,209	21,447
Jagráon		26,608	211,509 8	1,855	11,352 7	1,491	6,759
TOTAL	•••	100,533	669,305	6,817	27,094	10,088	35,022

Thus the average area to every cultivating proprietor who is liable for Government revenue is for the whole district six acres. In Jagraon tahsil it is eight acres; and in the Jangal Circle of Ludhiana, nine or ten. Every knewatdar is not necessarily the head of a family, for he may be unmarried; but he is in every case an owner of land in his own right.

B.—Division into Tribes and Castes.

Divisions of the population into tribes and castes.

43. The principal tribes of the district with the number of persons of each are as follows:—

Class.	Tribe.	Total.	Per cent on whele popu- lation.
Priestly and Religious {	Brahmins	25,121 19,185	4 3
Traders & Shop-keepers	Kbatri Bánia Sunár Sud	15.944 8.722 5.562 2,075	3 1 1
Agriculturists	Jat 1	222.665 30,957 30,759 27,229 3,312	36 5 5 4 1
Menials and Artizans	Chamár Chahra Juláha Tukháu Jhínwar Naie Lohár Kumhár Mochi Chimba	59,655 18,525 14,728 18,809 15,835 11,065 8,520 8,226 8,171 7,158	10 3 2 3 3 3 2 2 2 1 1

This leaves 56,212, or 9 per cent of the whole population unclassified.

Priestly and classes: Brahmins.

Religious for the most part live on the Jats of the uplands, few villages being without two or three families; but their services are also required by the Hindus of the large towns. They are of the usual subdivisions of Sársut Brahmins, and no detailed account of them is necessary. The Hindu Jats perhaps pay

them more attention than the Sikhs, but even the Mahomedan

Rájputs make use of their services on occasions.

The principal ascetic classes included under the general term Faqı́r are—Bhara ies (5,590). The Hindu Jats of the eastern parts are almost all "Sultánis" by religion; and ontside of each village there is a small "Pı́r Kháná" or shrine erected in

honour of Sakhi Sarwar Sultán; and this is in charge of a Bharaie or guardian, who is a Mahomedan and is not a celibate. These men are said to be Shékhs, because they belong to no other tribe. Every Thursday thay go to the shrine in the evening, light a lamp and beat a drum at it. The people make small offerings of eash, grain, &c., ("charáwa") which the Bharaies take. They also receive small presents at other times and accompany the pilgrims who go to visit the tomb of the Saint Saltán in the Dera Gházi Khán district. There is generally a small plot of land, half an acre or so, attached to the village shrine, of which the Bharaie gets the produce.

The Udásis (2,366) are Sikh ascetics of a sect founded by the eldest son of Guru Nának, (Sríchand). They are mostly Jats by origin, the chéla or disciple and

successor being usually chosen from this tribe; and are to be found in possession of the Dharmsálas in Hindu villages, where they distribute food to such as come for it, and read the "Granth," both of Baba Nának and of Gurn Govind, although they do not attach such importance to the latter. The head of the college is called "mohant" and the disciples "chélas." They live in Sikli as well as in Hindu villages, and it is probably on this account that they do not quite neglect Gurn Govind. They rarely marry; and if they do so, generally lose all influence, for the Dharmsala very soon becomes a private residence, closed to strangers. But in some few families, such as that of Jaspál Bángar, which keeps a very large " Langar" or alms-house going, it has always been the custom to marry, the endowments being large enough to support the family and maintain the institution; but the eldest son does not in this case succeed as a matter of course. A chela is chosen by the "molant" or by the family. If a molant whose predecessors have not married should do so, he would lose all weight with the people. As I notice elsewhere in speaking of the mafi grants, we have enconraged this class to throw off their religious character by converting them into mere landed proprietors.

The Bairágis (1,889) are to be found in charge of the Thákardwáras Bairágis and Saniásis, &c. or temples of Thákar, and the Saniásis, who are very few in number, of the Devidwáhas or temples of Devi. There are a very few Nirmilas and Nihangs to be found in some villages, where they occupy the Dharmsáles and also some jogi faqirs. These do not require a detailed account. There are one or two "dérahs" of "Suthra Sháhi" fáqirs.

The Saiads have not been included in the religious classes, as they are really agriculturists. The Bharaies, though Mahomedans.

Muhomedans, minister chiefly to the Hindus.

There are a few Mahomedan faqirs belonging to the Madári and Jaláli seet mostly.

45. Chief amongst the mercantile class are the Khatris (15,944).

They are to be found mostly in the towns, and engaged in trade of all sorts. The principal "Gots" are Beri, Maria, Lúmb, Jaidke in Jagráon; Thápar, Dhande, Adh in Ludhiána. Elsewhere the Gots are very mixed.

The Bánias (8,722) are not numerous; but are to be found everywhere. In the Jangal villages they are the shop-keeping class to the exclusion of all other tribes. They are in religion Jains and Hindus (Vaishuavas), principally

the latter. The Agarwal "Got" predominates.

Sunáras.

The Sunáras (5,962) are found all over the district, and are engaged in their trade of gold and silversmiths.

The Suds (2,075) deserve mention here, because the Ludhiána district is considered the head-quarters of the The Suds. tribe. I find from the Census Report that there are less than 20,000 of them in the Province, and that more than a quarter of these are in the Kangra district, and more than half in the Jalandhar division. These people are distinct from all other Hindus around; but their origin is a mystery, all explanation by the people themselves having the object of giving a meaning to the name which will reflect honour on the tribe. They say that they are really the same as the Raikwals of Agra, Delhi, &c., and they have the same "Gots," but do not intermarry with them. They have become a separate tribe like the Kaiaths, whom they resemble in the laxity of their religious observances, and in their liking for wine and flesh. Geographically they are divided into the hill (Uchandia), and the plain (Newandia); and socially into pure (Khara), and inferior (Gola, Chechar). The Suds of the hills are said to belong to the latter class, who have degenerated at some period by widow marriage. The line is now drawn hard and fast; and the two classes do not mix, although the Gola Snds do not now marry widows. The Suds are engaged in money-lending principally, and are to be found in Ludhiána and a few villages round and in the town of Machiwarah. They are fond of service as munshis; and half the Patwaris of the district and most of the Kánungos till recently belonged to the tribe. Though of a good physique, they do not like active service. They are most intelligent, especially in their own interests; and there are many sayings in proof of this, e.g., "Sud par, ghattri urar" (if a Sud is on the other side of the river, leave your bundle on this side).

Agricultural classes. Division of the land amongst them.

Agricultural classes. Division of the land amongst them.

WI accompanying this Report, which shows the proportions in which the land of the district is divided between them.

	JA	TS.		G : 435			
Total.	Hindu.	Mahome- dan.	Rajput (Ma- homedan).	Gujar (Ma- homedau).	Araien.	Others.	
100	62	4	0	7	3	14	

The Jats.

Religion of the Jats.

as follows:—

47. Thus the Jats make up more than $\frac{1}{3}$ of the whole population, and own 62 per cent. of the land. They are distributed by religion

Total.	Hindu.	Sikh,	Mahomedan.
222,665	95,000	102,447	2 5,218
100	43	46	

The Mahomedan Jats appear to have been converted to Islam in the time of Aurangzeb. They are to be found in the Samrála and the upper part of the Ludhiana Béts, or just over them. The other Jats are either Sultanis (Hindus, or Guru's Sikhs (including Kukas). The Jats adhere to their Gots or clans through all religions; and their belonging to one faith rather than to another is generally a mere matter of locality. Thus we find of the Garewal "Got" Mahomedan villages in the Samrála Bét; and in the uplands Hindu or Sikh. The Mahomedans are perhaps rather bigoted; but with the others I think that religion will be found to have at present a secondary place.

The Hindu Jat of this district deserves all the good things that have been written of the tribe. If the General qualities of the Jats are the best peasantry in India, I think we Jats as agriculturists. may say that the Malwah Jat possesses in a greater degree than any other branch of the tribe the qualities which have earned for it this distinction. In the "Malwah" country I include, as do the people of the Panjáb proper, at least the whole of this and the Ferozepur districts, together with the greater part of the Protected Territory to the south of them. In physique the "Malwah" Jat is not surpassed by any race in India, if indeed he is not to be put at the top of the tree in this respect. I do not think that any Regiment in the Bengal Army can show such fine stalwart soldiers as those recruited from this part of the country; and, although detractors are wont to say that he has a small heart in a large person, the "Malwai" has given ample proof that this is mere libel. The Malwah Jat appears to surpass his brother of the Manjha in prudence and thrift; and he is a better cultivator, more capable of managing his furm. As evidence of this I would point to the manner in which the former has succeeded in the struggle going on under our rule between the agricultural and the moneylending class. With the Malwah Jat as a rule the class whose business is ordinarily money-lending has really very little chance, for the former turns his hand to this as easily as to anything else. When a Jat has spare money he will seldom squander it; but, if he gets a chance, will lend it on the security of land. Where Khatris or Suds have established themselves in the early years of our rule, it is very hard for the people to shake them off; but in the Dhaia villages most mortgages of land are to Jats, some of whom have established a very extensive moneylending business. The Mahomedan Jat, though much superior to the Rajput or Gujar, is not equal to his Hindu fellow-tribesman. He is to be found along the river, principally in the Samrala tahsil; and, although excelling as a cultivator, he is often reckless and extravagant, a result that may be due either to his religion or to his surroundings, climate, soil &c.

There are two types of the Hindu Jat to be found in this district, 49. the difference being entirely the effect of local-Two types of the Hindu ity. The Jat of the Pawadh, or highly cultivated and irrigated eastern tract, is a slave With him it has been all work and no play for generations, to his land. and this has told on his physique and intellect. The cultivation of his holding is a constant round of teil, especially where there is a large area under sugarcane; and he is lucky if able to knock off and give himself and his cattle a few days' rest during the rains. He has no thoughts beyond his village; and never dreams of service. But withal he is thrifty to niggardliness, and industrious beyond comparison; and it is sheer bad luck if he gets his head under water. When he has a little money to spare he at once lends it on the security of some less lucky sharers' land. For the Jat of the Jangal the labour of cultivation is of the lightest description, and he appears ineapable of remaining idle for long. He turns his hands most readily to carrying; but also goes in largely for cattle trade, service, anything in fact that will enable him to turn an honest penny, for he is seldom a rogue. His favourite method of spending the time between reaping and sowing, when he and his cattle would otherwise be absolutely idle, is to start with a cart in the direction of Ludhiána, sell his own grain, and whatever more he can collect, and return with a load of "gur" or anything else that he thinks he will be able to dispose of at a profit. The cart is probably at first the ordinary rude one used in field work, and the cattle are those. that work in the plough; but after a few successful journeys he buys a better cart and probably better cattle, thus extending the field of his operations. This difference of life has produced in him mental and physical qualities much superior to those of the Pawadh Jat, although the latter is far ahead of other tribes in both respects; and one can tell the difference at a glance. The Jat of the Jangal is undoubtedly at present

the finest stamp of peasantry in India. What he will be when irrigation from the Sirhind canal is fully developed remains to be seen. The Pawadh Jat has but one string to his bow, while his brother of the Jangal has at present many. Hard cash finds its way into the Jagraon and Lower Pakhowál villages through half-a-dozen channels. Under former rulers, whose system was to take as much from the cultivator as they could get, the Jat was usually kept down; but since anucxation his genius has had full play, and he is waxing fat; and I do not know of any class that ought to be so grateful to us. On occasion he can be extravagant, and very large sums are sometimes spent on celebrations, especially in Jagraon talisil. This generally means that a man has more money than he knows what to do with. Besides excelling as an agriculturist the Hindu Jat is a good subject and a most respectable member of society. He has as a rule no vices; and, although I would not assert that a lively sense of gratitude to us as his rulers is ever present in his thoughts, he knows that our Government gives him greater security than any preceding one did, and he is quietly contented. His chief fault is quarrelsomeness, which has now developed into litigiousness.

50. To the east of the district, and especially in the Samrála tabsíl the multitude of "Gots" amongst the Hindu Jats is a very remarkable feature. Not only do adjoining villages belong to different

"Gots," but inside each village will generally be found two or three Pattis of distinct origin. This is accounted for by the manner in which the country was colonized. In the history of each village it will be seen that the founders came in comparatively recent times from different parts of the country, and belonged to different "Gots;" and that they united merely for their own convenience, the common tie of belonging to the same tribe being sufficient. To the south and west, on the other hand, we do find that the Jats in some instances came in bodies; and villages belonging to the same "Got" lie either in groups or within short distances of each other. Thus the Sidhu and Gil Jats appear to have come eastward in large parties, and to have settled down in adjoining or alternate villages in the western part of Jagraon. But the rule throughout the district is variety of "Gots," and the few groups of villages that there are, each belonging to one "Got," are the exception. The reason for this apparently is that in the eastern parts, in the neighbourhood of Sirhind and Ludhiána, the Imperial authority was always strong enough to protect its subjects, who settled down in small villages as they came; while in the west it was less felt, and people of one tribe had to collect in large villages for protection. In Samrála no attempt has been made to return the land as distributed amongst the various subdivisions; but in the other talisis it was possible to do this roughly, as there were a few "Gots" owning villages and groups of villages. I give the details of area held by the leading "Gots" in these two talısils :—

Tansil.	Tota! Jats.	Garewái	Gil.	Sidhu.	Dbáliwál	Dhilon.	Sékhon.	Bhan- dher.
Ludhiána Jagráon	 68	8	3 5	5 9	8	1 2	1	8

This "Got" holds about 50 First in rank are the Garewal Jats. large villages near Ludhiána in a group, and Garewal Jate. members of it are also to be found scattered over the district: but their number is not shown in the Census tables. They trace their descent from a Rajput, Raja Rikh, who came from the south and settled in Kalur in the Hills. Bairsi, son of Rikh, left Kalur and settled at Naiebad to the south of Ludhiána, and contracted a marriage with a Jatus, called Rupkour, and had to start a "Got" for himself as his brothers would have nothing further to do with him. His son was "Gare," whence the name of the Got; but another fanciful crigin is "Karewal" from Karewa. The descendants of Bairsi gradually spread over the country to the south-west of Ludhiána. The Garewals are admitted by the other "Gots" to be superior, and are called "Sahn log," i.e. superior. As amongst the Rájputs, their women are secluded, and do not take part in field work. Their girls are sought in marriage by the best families of Sardars, and even by Rajas. The Garewal families of Raipur, Gujarwal and Narangwal had a sort of local authority at the close of the last century, and are called by pre-cminence "Sahu log." The Garewals are in consequence of all this the proudest of the Jats, and somewhat inferior as cultivators. They are also very extravagant and quarrelsome; but they take to service better than any other "Got" as they hold it honourable, and in all of their villages will be found men who are either serving in our army or in receipt of pensions. A great deal of money thus finds its way into their hands. When they trust to cultivation alone they are not so successful.

The Gils own about 40 villages, mostly in Jagraon tabsil; and are returned as 11,899 in number. They are next in rank to the Garewals, and their women are secluded. They are also fond of our service. They here claim descent from Surajbansi Rajputs, their ancestor being a king of "Gharmela" in the south, whose son, Akanra, took to agriculture. The son of Akanra, Gil, founded the "Got," which moved northwards by degrees. They came to this district from Kusla in the "Jangal" ilaqa about 250 to 300 years ago, in the reign of Shah Jehan it is said. The Gils are first-rate agriculturalists; but their habits are generally extravagant.

The Sidhus have a good many villages in Jagraon tabsíl where there sidhus.

Sidhus.

They are a well-known Got throughout the Lahore and Amritsar divisions, and much has been written of them. Those of the Ludhiána district are of the Barár subdivision; and came from the south-

west, from Faridkot it is said, in the time of the Rais within the last 200 to 300 years. The Sidhus number 13,194.

The Dháliwáls (12,145) have a good many villages lying about

Dbáliwál. Pakhowál and in the Jagráon tahsíl mostly. Their ancestor was, as usual, a Rájput, who came from Jessalmir and settled in Kángar in Nábha territory, becoming a Jat. From Kángar his descendants came into this district under the Rais and their Sikh successors. The Dháliwáls are accounted one of the superior Gots of Jats, but do not differ much in their customs from the others.

The Bhandhers are the descendants of Bhandher, who was the off-Bhandher. spring of the union of a Rájput and a woman of inferior caste. He settled in Bhatinda first, and thence his descendants migrated to Rao Siána in the Maloud ilaqa, where the tribe now holds 10 or 12 villages.

The Sekhons had a similar origin to the Bhandhers, and came to this district from some place in Patiála territory, Bhadour it is said. Their villages are scattered all over the district.

Dhilon. The Dhilons (6,317) say that they came from the Manjha in the reign of the Emperor

Mahomed Sháh.

Minor subdivisions. Minor "Gots" of the Jats are-

•••	Add Mile	•••	4,964
•••	The state of the s	•••	4,296
•••	(投資) ・の計算的)	•••	4,258
***		•••	3,724
***	***	•••	8,008
•••		•	2,930
	•••	(1 care)	

It would take up too much space to detail the tradition as to the origin of each of these. They are to be found scattered over the district, holding single villages or subdivisions of villages.

50. The Rajputs are undoubtedly the oldest of the agricultural tribes that now hold the district. Only 1,600 of them are Hindus, and these inhabit two or three villages in Samrála talsál. It is good evidence

of the demoralizing effect of the Mahomedan religion that the Hindu Rájput is very little inferior to the Jat as a cultivator. In the Bét of Samrála the most prosperous village belongs to them, the proprietors being free of debt and largely engaged in trade. The Mahomedan Rájput of this district possesses at least all the bad qualities generally ascribed to his tribe. He has a good physique, but this is about all that can be said in his favour. As a cultivator he is useless, being indolent and apathetic to a degree. He will never do an honest day's work if he can help it, and spends every penny that he can borrow. His village is generally a picture of slovenly cultivation; and he will tell one that this is because it is not his proper business to follow the

plough, and because his women are secluded. If possible he will rent his land to some one else, and never fails to try to spend more than his neighbour on a marriage celebration, regardless of the fact that it is certain ruin to him. His women are said to be quite incapable of managing their household affairs, and the Hindu shop-keeper in a Rajput village makes a fortune in a very short time, at first, it is said by cheating the women, and then by getting the men into his books. If a Rajput does take to service, it is only in a half-hearted way; and he will on the slightest excuse throw it up and return to his village. In fact the Mahomedan Raipnt of this district has, as far as I know, no redeeming points in his character, and is a perfectly useless member of society. I may mention that at the Regular Settlement the Mahomedan Rajput villages were treated very leniently, and in many cases pay half or one-third less than their neighbours; but this moderation appears to have had no other effect than to encourage further extravagance. The great feature in a Rajput's character is, I think, a complete want of anything that could be so designated. He is the most vain and foolish of mortals, and can seldom give a reason for anything that he does. He is, as a matter of course, discontented; but it would require a peculiar state of society to suit him. These remarks apply to the tribe as a whole; but there is a daily increasing number of members of it in whose favour an exception should be made. The principal Gots or subdivisions of the tribe are the "Ghorewah" in the east, and the "Manj" in the west (Jagraon tabsil). The Ghorewah Rajputs own a great number of villages along the Satlej in this and the Jalandhar They trace their descent from Hawaha, brother of Kachwaha. who came into the country in the time of Shahab-ud-din Ghori (1:50) A.D.), and was allowed a grant of as much land as he could ride round in a day, hence the name. Others say he presented a "nazar" of a horse, and got the tract which his descendants now hold. Rajput's time is taken up in listening to absurd stories of this sort over the viilage pipe, while he ought to be working in his fields. The Manj Rájputs own a good many villages in Jagráon, Bét and uplands. They came from the south-west, their ancestor Chachn leaving Faridkot and settling at Hatur. From Hatur the descendants of Chachu founded several large villages, Andlu, Halwarah, &c., in this district, and also. erossed the Satlej. The family of the Rais of Raikot is looked upon as the head of the "Got" on this side of the river. These Rais at one time held a great part of the district under their sway, and a detailed account of the family will be given elsewhere. Other "Gots" of the Rájputs are "Bhatti," "Chanhan," "Náru," "Janohi," &c.

Gujars.

Gujars.

Gujars.

Gujars.

Gujars.

But it appears pretty certain that they are a nomad race ("Gau-char" = Gujar) who moved from towards the hills in search of pasture and gradually settled down along the river for the sake of the grazing. They now hold a number of villages in the Bét or low lands, mostly in Ludhiána tahsíl. About 100 years ago Sardár

Singh and the Kákars, who held the Bét lands under Ludhiána, located them in villages; and they have only since then taken to agriculture. The Gujars of this district are all Mahomedaus. They are of good physique, tall and well made; but are said to be lacking in courage. Intellectually they are not strong; and they are, as a rule, much too easy going and careless to get on in these times. As cultivators they are not of the first class, though superior to the Rájputs. They have a hereditary liking for cattle, especially that of other people; and most of the Gujar villages contain men recognized by the police as criminals. They are as a tribe turbulent, discontented and lawless; and gave a great deal of trouble in the mutiny. Gujar women help their husbands in the fields. The principal subdivisious are "Gorsi" and "Chechi," also "Kálas" and "Paswál."

- The Araieus of the district appear to have worked their way up the Satlej from the direction of Multán. The Aráiens. They are also said to be Kambohs converted to Mahomedanism. It is very probable that they did come up the Satlej, for they can be traced along its banks in the low-lands of Lahore and Ferozepur and half-way up the Ludhiana district; but they are not to be found higher than the town of Ludhiána. They are probably a mixed race, gardeners by profession, who in some locality or other have formed themselves into a separate tribe and spread over the country. The Araiens are all Mahomedans. They are generally small, wiry men, capable of a great deal of labour. As Characteristics. cultivators they rival the Hindu Jats, but are inferior to the latter in intellect. An Araien will support himself and his family on a very minute area of irrighted land, on which no one else could possibly exist; but as the owner of a large holding he is less successful than the Jat, and does not seem to have the power of managing a large farm. All the members of his family assist the Araien in his cultivation; and the women sell the vegetables or exchange them for grain. The Araien is a very quiet and inoffensive member of society, and does not appear to trouble himself about politics. principal subdivisions in this district are Ghalar, Ghalan, Jatáli.
- The Awans are said to be a race of foreigners, who came Mahomedan invaders from with the first The Awans. beyond the Indus. The tribe holds some 10 or 12 large villages round about Ludhiána, situated in the low-lands and in the Diain. Their number is understated in the Census, some having perhaps been returned as "Shekhs." The Awans are all Mahomedans. They are a very fine, powerful race of men; and are inferior only to the Hindu Jats in intellect and enterprise. They are very fair cultivators, but do not depend entirely on agriculture, and are always ready to turn their hands to anything. They are foul of service in the army, police, &c., and most of their villages can turn out a number of carts, which are worked for hire. In the last Cabul war they made a great deal of money by carrying between Jhilam and

Peshawar, and some of the villages depend much more on their carts than on their fields. They are an extravagant race, and spend at least as much as they carn. The Awans are very strict Mahomedans, and say their privers regularly. Very many of them have received a religious education and are Moulvis. Their women are secluded. Their chief fault is quarrelsomeness, which has, as in the case of the Jats, developed under us into a love for litigation.

Minor land owning tribes : the Dogars.

Saiads:

There are a few Dogars in the Bet. They resemble the Gujars, being of good physique, but wanting in intellect. As cultivators they rank with the Gujars, and run them very close as thieves. Their women work in the fields. There are one or two whole

baiad villages; and the tribe holds shares in others scattered over the district. Those of

Taraf Saiadán, one of the subdivisions of Ludhiána, are respectable and well-to-do; but, as a rule, the Saiads are poor cultivators, being much

too lazv. There are a few Sainis (304), and Miscellaneous, Kambohs (951), the latter being Maliomedans: also some Banjárahs (912), and Lobánahs (923), all in the Bét. The last two of these appear to have the same origin, (said to be a Rajput one, as a matter of course); but they are now quite distinct. The Banjarahs are a somewhat superior tribe, but it is said that in this district the two tribes intermarry. They are both Hindus or Sikhs by religion; and, besides agriculture, are engaged in carrying grain &c. on bullocks; and the Lobanahs in making ropes, brushes, &c., from "munj." Rawats own one village near Ludhiana, and number They have certainly nothing in common with Rajputs, being the mildest of men, and first-rate argiculturists. The criminal classes of Harnis, Baorias, Gaunemars, are also land-owners. The Harnis were settled down in three or four villages in the cast of the district by the Sikh chiefs who overthrew the Rais of Raikot; and the others own each of them a village. I suppose these men have all been returned as Rápputs, for so they call themselves. An account of them will be found elsewhere.*

Next in point of numbers to the Jats are the Chamars, (59,655), who are returned as nearly one-tenth Menial and artizan classof the whole population of the district. es: Chamárs. people are the most degraded of all classes except the Chuhras; and their position in the village very nearly approaches to that of servitude. They are known as "begari," and are found attached to every village in the district, for the zemindárst cannot get on without them. They eat the dead cattle, and are considered so unclean that a separate place is assigned for their residence. They are bound to perform certain tasks (begår) for the zemindar, and receive certain allowances of grain and all carcases of cattle. They cannot change their place of abode, for a chamár of one village would not be allowed to settle down in another. Further details as to their dues and They are all leather-workers, tanning services will be found elsewhere.

^{*} Para, 157. † The word "zemindar" when used in this Report is equivalent to "agriculturist.

the skins of the dead animals that are given them, and making buckets for the wells, bhisties' mashaks (water bags), shoes, &c. They are paid for all new goods supplied, but repairs are included in their tasks. The chamárs are not recognized as of any religion. They bury their dead.

The Chuhras (18,525) are found mostly in the towns and in some villages where they are servants of the higher classes of Jats and of the Rájputs, or are village servants (kamíu) for the purpose of summoning people ("bulári").

Tarkhans or carpenters have taken to agriculture, and own shares in several villages. Those who follow their hereditary occupation are to be found in nearly Tarklian. every village, for they are a necessary element in the agricultural community. The Tarkhan, though classed as a village menial (more properly an artizan), is a man of very superior intellect, and occupies a good social position. He can consequently make his own terms with the zemindar, and moves about as he likes. He does all sorts of carpenter's work, receiving a fixed allowance at harvest time for all repairs and the price of all new work. There is a large colony of Tarkhans working as carpenters in Ludhiana. These make carts, all sorts of furniture, hoxes, &c.; and some of them have amassed great wealth, which they invest in hand when they can. Many of them are also in service; and it is a proof of their good social position that Ram Singh, the gurn of the Kukas, belongs to the tribe.

The Lohars are also village servants, who do all the iron work of the agriculturists, or they are settled down in the larger towns and follow their trade there.

The Jhiuwar is not necessary in most villages, for the Jat women usually fetch the water for domestic use themselves. He is to be found in the towns or in the Rájput and higher class Jat villages, where the women are secluded. His services are required everywhere in nearriage and other celebrations.

The Naie is found everywhere; and is a very important village servant. He is the barber, and is always employed in arranging betrethals, being sent as a "Lági," or go-between.

The Juláhas or weavers are scattered over the villages, where they weave the cotton thread of the zemíndárs into cloth (woollen blankets are woven by Chamars or Chuhrás who have taken to the profession). There is a large colony of these people in Ludhiána.

The Kumhars (brick-makers), Mochis (lenther-workers) and Kumhar, Mochi, Chimba, &c.

Chimbas (washermen and cloth stampers) reside mostly in the towns. The zemindars generally make their own bricks for the wells, but go to the Kumhars for water jars (chatti) and other ntensils; and have an agreement by the harvest about these. The Mirasis (5,489) are found all over the district, principally in the Rajput villages. They live by alms.

Other miscellaneous classes.

Other miscellaneous classes.

Chief held a very large portion of this district under Maharaja Ranjit Singh; and this has given the tribe a step in the social scale. They call themselves Ahluwalia or Néb, never Kalál, and are Sikhs. Some of them hold small jagies, and they generally distinguish themselves in service. The Pathans (3,629) are mostly confined to Ludhiana, the refugees from Cabul; but an ancient colony of them hold the lands of Bahlolpur. The Kashmíris (2,492) are settled in the city of Ludhiana.

C.—Religion and Social Life.

Distribution between the various religions.

58. The Census returns distribute the population of the district according to religion as follows:—

	Ratifica.		TOTAL.	Per 10,000.
Hindu	411		275,240	4,448
Sikh	•••		127,143	2,055
Mahomedan	•••		213,954	3,457
Others	•••	REPORT OF THE	2,498	40
	TOTAL	सन्त्रमेव नयने	618,835	10,000

Hindus and Sikhs in the sentern part of the uplands is strong in the Hindu and weak in the Sikh element. Religion follows very closely the main division of the those of the western parts and of the "Jangal," while to the east the people are mostly Hindu. The following details will show that this is the case:—

Tah-íi.			Sumrála.	Ludhiána	Jagráon.
Hindus	•••		89,154	130,478	55,608
Sikhs	•••		16,893	63,633	46,617

The Hindu population of the Jagraon tabsil is made up of the mercantile, trading, and miscellaneous classes inhabiting the towns and following their occupations in the villages; and it may be said that the Jat population is entirely Sikh, the total of the Jat population in the tabsil being about a quarter of that in the whole district (220 thousand). On the other hand, the proportion of Sikhs is very small in Samrála; and, if we had the details for Ludhiana talisil, we should find that to the east of the Maler Kotla road most of the Jats are Hindus, while to the west of it and towards the Jangal, they are all Sikhs. From what I have said of the two types of Jat 1 think it will be seen that the adoption of one religiou or the other depends on the mental qualities of the people, which again are the result of locality. The Jat of the cast has little time for any religion, and we might expect the form adopted by him to be of a lower order, and more involved in superstition. He keeps his ancestor's religion as he does their system of cultivation; and wants no change, having few ideas beyond his fields. On the other hand, the Jat of the west is independent in his religion as in everything else; and Sikhism is just the sort of faith that would commend itself to bis mind.*

The Mahomedan portion of the agricultural population is confined to the Bét and the country just over it, which they hold to the almost total exclusion of Hindus. They have also villages scattered over the uplands; and the

Mahomedan element is very strong in the town of Ludhiána.

It is not necessary that I should enter into a detailed account of the various Hindu sects, as it would be out Hindu Sects. of place here; but some mention may be made Bultánie. of the Sultanis, who make up the greater part of the Hinda Jat population. These are the followers of the Mahomedan saint, Sakhi Sarvar Sultán, whose tomb is at Nigália, in the Dera Ghazi district. Mr. Ibbetson gives his date as of the 12th century. I have been unable to find out how and when the worship of the saint spread though this district; but it is said that the Jats brought it with them, and they may well have done so in the ease of all immigrations within the last 300 or 400 years. It is probable that the belief spread eastwards in the 15th and 16th centuries, and that at the time of Guru Govind Singh most of the Jats held it, the conversions to Sikhism being from it. The Sultanis are nominally ordinary Hindus, worshippers of Shiv or of Dévi; but it is characteristic of popular Hinduism that the saint and his sarine, being something more tangible than the deity, have entirely excluded the latter, and that the saint should have been a Mahomedan. They are, as might be expected, very lax Hindus. I have already (in para. 44) given an account of the Bharáies, or gnardians of the village shrines of Sultán (pírkhána). These pirkhauas have always the same shape—a square base with four small domes at the corners, and in the centre a small temple 10 or 12 feet high.

^{*} The real cause of the weakness of the Sikh element in the eastern parts, is that they were always under the direct influence of the Mahomedan power; and the spread of the faith amongst the agricultural population was thus checked. It was on the limits of the Empire where persecution could not easily reach it that the religion acquired its greatest strength.—T. G. W.

There is a door in front of the temple; and, facing this, two or three niches for lamps. Otherwise it is empty, there being nothing to represent the saint. The Thursday offerings at the shrine are not universal, and are generally made by the women. The Bharáic attends all that day. It is very common for a person wishing to attain some object (e.g. to succeed in a law suit) to make a vow to the shrine; and offerings in this way also go to the Bharáic. Once a year, on a Friday, the ceremony of "Rôt" is performed in most Sultáni families. A linge loaf is made of one maind (katcha) flour and \(\frac{1}{2}\) maind (katcha) gur, and cooked. The Bharáic attends and beats the drum, and sings the praises of the saint while this is preparing; and receives one-quarter of the bread, the other three-quarters being eaten by the family and the neighbours. This is the great observance of the Sultánis, and they really appear to have no others.

60. The Ludhiana district, and adjoining Cis-Satlej territories, figure largely in the annals of Sikhism. Sikhs. Nanak and his successors made many converts in this tract; but it is more famous as the scene of the wanderings and persecution of the great Guru, Govind Singh; and it was here principally that the religion took its militant form from contact with the Mahomedans. Sirhind, the head-quarters of the Mughal power in these parts, is only a few miles east of the Samrala border. It was against this town that the earliest efforts of the Sikhs were directed: and it was here that, after the dispersion of the Gurn's followers by the lieutenant of Lurangzeb, the wife and of Govind Singh were murdered a deed that has made the town accursed to all his followers. It is in this district, too, that the latest development of Sikhosm has had its origin under Rám Singh, Kuka. The two religious of the Jats, i.e., the worship (for such it is) of Sultan and Sikhism, do not really differ very much from each other in practice. The ordinary Sikh of the district is a Hindu who reverences the Gurus and their Scriptures, and in token of this has taken the baptism, and adopts at least some of the signs enjoined by Guru Govind Singh. The Sultani is a Hindu who has inherited the worship of Sultan; but the more intelligent of them see the absurdity of this, and really believe in the Gurus as much as the Sultanis are constantly taking the "pahul" or baptism, and the conversion makes almost no difference to them, except that they have to give up smoking. I have often been told by a Sultani Jat that he did not become a Sikh because his father was not one, and it was not the custom of his family to take the "pahul," but that his sons would be Sikhs; and he had really no better reason for his own form of religion. which he admitted to be foolish. Such a distinction as the manner in which sheep and goats ought to be killed for food is not likely to affect a people who never touch flesh, and really consider it a sin to kill any animal. The Malwah Sikh of the present day admits the Hindu gods, and follows the Brahmins in everything. He is very unorthodox on most points, but has taken the "pahul," generally from the hands of some holy man who has visited his village, less often at Amritsar. After this he adds "Singh" to his name, if he has not taken it in

anticipation, must renonnce smoking, and keeps three out of the five "k's" enjoined by Guru Govind Singh, viz., the "kes" or long hair, the "kanga" or wooden comb, and the "kach" or drawers. There is nothing approaching to bigotry in the disposition of the Sikh Jat; and so much of his faith as is not made up of these lew external observances, which are after all more of a social than of a religious character, is the religion of humanity preached by the earlier Gurus. A Sultáni will generally call himself a Sikh; and does not seem to recognize much difference between himself and the Gurn Sikh, except that the latter cannot enjoy his pipe. Sultán is attended to once in the year; and even this is a mere matter of custom. The Sultani will say that he reveres the Sikh Gurus; and no wonder, for the moral precepts of the "granth" might belong to purest form of religion. The real religion of both Sikh and Sultáni is a belief in one god, and in every-day life there is blind obedience to the Brahmin or other priest.

The most important of the recent revivals in Sikhism is that of the Kukas which is a protest against the The Kukas. present laxity, and an altempt to restore the political religion of Guru Govind Singh in its purity. "This sect was founded about 35 years ago by an Udási Fagir, an Arora by caste. called Bálak Singh, who lived at Hazaron in the Rawalpindi district. His followers were called Sagiásis or Habiásis; and after his death in 1863 the movement died away in the western Panjah, but was energetically stimulated in the central and eastern districts by his successor, Rám Singh, a curpenter of Bhaini in Ludhiána. The tenets of the sect proclaimed Govind Singh as the only true Guru, prohibited all worship save the reading of his "granth," and all employment of Brahmins; and in many ways revived the original doctrines of the Sikh faith. They included the abolition of caste and of restrictions upon intermarriage, abstinence from ment, liquor, and drugs, and comparatively free intercourse between the sexes. The sectaries carried staves about in their hands, tied their turbans in a peculiar fashion (Sidha pag), wore a necklace of woollen cord tied in knots, and had a watchword known only to themselves. Ram Singh presently declared himself to be an incarnation of Gurn Govind Singh, and preached the revival of the Khálsa and the overthrow of the Euglish Government. His followers used to meet by night for the purpose of drill, while, as usual in such cases, a good deal of religious hysteria was excited, and ended in much sexual license. The attention of Government was attracted to these proceedings as early as 1863, and shortly after this date the sect began to be known as Kukas, or "shouters," a name which has now superseded their original designation. For several years these people did nothing worse than defile or destroy shrines and idols, and murder butchers and others whom they suspected of slanghtering kine; but as early as 1869 there was a small Kuka outbreak in Ferozphr, which seems to have had a political object; and in January 1872 the Kuka rising in Maler Kotla took place, which ended in fifty of the ringleaders being blown away from gnns, some thirty more being executed, and Ram Singh being deported. The sect cannot be said ever to have attained any general popularity; its followers have throughout been

drawn almost exclusively from the lowest classes, their attacks upon sacred places have ontraged the feelings of their neighbours, while the pure morality, which they at first preached, has been superseded by the most unbridled license under the name of religious enthusiasm, men and women dancing naked together and indulging in orgies which have alienated the sympathics of the more decent portion of the community." The above account of the Kukas is taken bodily from Mr. Ibbetson's Census Report. Ram Singh was born in Bhaini Ala, 14 miles cast of Ludhiana about the year 1820, the son of Jassa, a carpenter. He was at one time in service in the Khalsa army at Lahore; and, on giving this up, established a shop at Ludhiána. This failed, and he worked as a carpenter in his own village and at Ludhiana. took to wandering about the country, plying his trade; and finally became the disciple of Balak Singh in Hazaron. When he had established some reputation he settled down at Bhaini hetween 1850 and 1860, and thence disseminated his doctrines. The sect increased rapidly, and followers came from all parts, never empty handed. He was soon able to set up a large "Dérah;" and at the time of his arrest in 1872 used to go about followed by a large retinue and in great state. I very much doubt if it can be said that even the majority of the Kukas are drawn from the lowest classes, for the sect has made much more progress amongst the Jat Sikhs than any returns would show. The excesses committed by a small body of fanatics in 1872 were probably disapproved of by the sect at large. The principal ontward signs of the faith are the straight pagri, and the woollen cord (mahla); but since the outbreak of 1872 (of which an account will be found elsewhere,* the first of these is not worn by many Kukas; and the cord is kept under the clothes instead of outside, as it ought to be. A dispensation from the Dérah (where Budh Singh, brother of Ram Singh, resides) is easily obtained; and it is evidently the intention of the sect to give up all the outward marks of their faith so long as they are persecuted. A Kuka would call himself a Sikh unless he were well-known to be a Kuka; and I think that only a very small proportion of the followers of Ram Singh have been returned as more than Sikhs, which of course they are. The truth is that it is not possible for a Kuka to be a loyal subject of the British Government, as the avowed object of Guru Govind Singh, whose incarnation Rám Singh professes to be, was a temporal kingdom; and the establishment of this under Ram Singh is the first element in the faith of the sect. It is not to be expected then that any man miless he were prepared to break with society and give his enemies a constant hold on him, would admit that he belonged to the sect; and most Knkas would at the present time, even if asked the question directly, deny their faith.

Mahomedans; character of their religion.

Mahomedans; character of their religion.

Mahomedans; character of them are so returned. No account need be given here of the tenets of the three sects. The Juts, Rájputs, Gujars, Araiens, Dogers are all converted Mahomedans, and their conversion was probably foreible, so that we should not expect them to be very strict, or their

religion to be more than skin deep. They say their prayers when they have time; and generally keep the fast of Ramzán. The Mahomedau Raiputs are probably the most foolish in their religion. and most superstitions of all tribes in the district; and will believe in anything. The Awans came to the country as Mahomedans, and are strong in their religion, most villages turning out several Moulvis learned in the law. They are, like the other Mahomedan tribes, guided by enstom on questions relating to land; but, after I had attested their tribal code last year, a very strong representation was made to me to the effect that, although customs contrary to the Mahomedan law had established themselves, the tribe now wished to enter into an agreement for the future strictly to abide by the latter.

Pilgrimages and religious fairs frequented by the people : Sakul Sarwar.

Mention has been made of the shrine of Sakhi Sarwar in Dérah Gházi Khán. This is a very favourite place of pilgrimage for people of both the Hindu and Mahomedan religion, but principally for the Sultani Hindus. Bodies of pil-

grims start from the district in charge of the Bharaies in the mouth of Phagun (March), and return in Chet (April), the journey taking 13 months if performed on foot, as it generally is. Offerings are made at the shrine of money, clothes, &c., without any special ceremonies; and three or four days are spent there. A "rot" is often made (see para. 59). It is said that leprosy used to be cured by a visit to this shrine; but generally a man gets whatever he wishes by making the pilgrimage, or goes on it to fulfil a vow. Hindus of all tribes go from this district

Temple of Déri et Jualla

to the temple of Devi at Joalla Mukhi in the Kangra district. They are accompanied by their families while, as a rule, men only go to Sakhi

There are four seasons appointed in the year for this pilgrinage, the principal ones being in March and September. Offerings are made at the shrine, and the hair of the children cut off and left there. Some also go to Naina Devi; and the Sikhs reverence this shrine because "Gurn Govind" spent some time at it. The road to Joalla Mukhi lies through Hoshiárpur and to Naina Devi through Rahon or Rupar.

Hindus also go from this, as from other districts, to the Hardwar fair, especially for the Kumbh, which comes every Hardwar Fair. 12 years; and the Sikhs to the "Harmandar " Darbar Sahib," Ji," or temple at Amritsar for the Baisákhi and Diwali Fairs; but not in any great numbers, and more probably with a view to the purchase of cattle than of worship.

The next three places of pilgrimage to be mentioned lie in the Amhalla district near Thanesar, within what is Kulchetar, Pehoa, Phalgu. said to be the circle where the last great battle between the Kairus and Pándus was fought. Kulchetar ("Kurukshetra"— Cunningham) is close to Thanesar town; and, when there is an eclipse of the sun, crowds of pilgrims go there and bathe, the day having been duly notified by the Brahmins. Pehoa is 12 or 14 miles further on; and a great fair is held there on the last day of the Hindu year (Chet Chandas), when the people bathe in the Sarusti river, which runs close at hand. Besides this when any one dies an unnatural death—by snake-bite, by accident, &c., in fact in any other than the orthodox way of being put on the ground—the funeral obsequies have to be performed by the Brahmins of Pehoa to whom presents are made. When the last day of the Sarad or Kanagat (the period of 15 days during which a Hindu worships his deceased ancestors) falls on a Monday, a religious fair is held at Phalgu, where there is a tank in which the pilgrims bathe. This fair was held in 1868, 1880, and will now be held in 1883. There is constant stream of pilgrims to Pehoa, for a Hindu or Sikh must go there if the person whose obsequies he is bound to perform has died an unnatural death. All the Hindus and Sikhs of the district alike go to these three fairs, crowds of them to the eclipse fair at Kulchetar.

A few Mahomedaus go to the fair of the saint Pir Banchi held

Mahomedan pilgrimages.

at Sunam in Patiala; one in 10,000 goes to

Mecca: a great many go to Sakhi Sarwar,

but the pilgrimage is essentially a Hindu institution.

Fairs in this district:

Chét Chaudas.

Ludhiána, Máchiwárah, Gadowál and Sidhwarah Chét Chaudas.

Ludhiána, Máchiwárah, Gadowál and Sidhwarah Chét Chaudas.

Ludhiána, Máchiwárah, Gadowál and Sidhwarah Chét Chaudas.

Nála, and the fourth close to the river.

Hindus come, bathe, walk about, and then go quietly home. Some 30,000 from the villages come to Ludhiána, and about 10,000 to Máchiwárah.

The Roshani Fair is held at the shrine of a saint Pir Abdul Qádir Jaláni (cailed generally "Pir Sáhib") which lies in the open space between the Fort and city. This is a Mahomedan fair; but the Hindus of the city join in it. It is held on the 9th—1!th of the Mahomedan month of Rabiulsáni (called Miranji); and thus falls on a different date every year. The Mahomedans come from all the villages round, make offerings, and pay their respects to the shrine. There is a peculiar custom of bringing cattle and keeping them tied up at the shrine all night for good luck, this being called "Chowki," i.e. the cow or buffalo "watches" at the shrine. The fair is attended by 40,000 to 50,000 people from the villages; and the offerings, which are taken by a family of Sofis, amount to Rs. 300 or 400. The name "Roshani" is derived apparently from the tomb being illuminated at night during the fair.

The Bhaiewálá (Bhaiebálá) Fair is held in a piece of waste land of Dád, a village close to Ludhiána. It comes in the mouth of Mágh (10th Sudi), or about January: and is in honour of a disciple of Guru Nának, called Bála. There is a Samádh and also a tank, and Hindus go and make offeringe of money, grain, &c., which are taken by the "massands" or guardians (Khattri Sikhs of Kudháni, Patiála territory). The people also make curds over night and take them to the fair where they eat or distribute

them after presentation to the shrine; and it is the duty of every one to scoop out several handfuls of earth, originally no doubt with a view of increasing the size of the tank. The fair lasts one day, and some 10,000 attend it.

The Sudlakhan Fair at Chhapár, on the southern border of the district, is also an important one. It is held The Sudlakhan or Chhapár in the mouth of Bhádon (September) in honor of "Guga" (for an account of whom see Cunningham's Arch. Survey, Vol. XIV, pages 79-86); and there is a large shrine or "Mari" in his honour. The local account generally given of Guga is that he was a snake, and changed his form to that of a man in order to marry a princess. Afterwards he returned to his original shape; but in the meantime acquired a great kingdom and won renown, which has come down to the present The "Dhádis," or itinerant minstrels, make up stories about Guga as they go; and it is impossible to say what he was originally. The fair is a Hindu one; but Mahomedans also uttend; and some 50,000 people assemble. Offerings are made at the shrine, which are taken by the resident Brahmins, and these amount to some Rs. 300 a year. As at the Bhaiewala Fair, the people accop out the earth, and cattle are also brought to be blessed as in the Roshani Fair. The shrine is said to have the power of caring snake-bite, and a person bitten will recover if put beside it. Perhaps this reputation is due to the traditions about Guga, in all of which there is something about snakes.

The only other fair worthy of mention is that of Bure Shah, or "Makiphan," held at Jangpur (Jagraon tabsil) Jangpur Fair. in September when the maize is ripening. It is a Mahomedan fair really, and Mahomedan fagirs collect from all parts, but the Hindu Jats also come in great numbers. Altogether some 10,000 attend. The fair is held at night, and the people light lamps at the shrine and make small offerings, which are distributed amongst the fagirs.

Religious and charitable institutions.

Dhurmáslas and Langars or alms-houses.

A great feature in the Jat villages of the uplands is the Dharmsála, an institution partly religious, partly charitable, in charge of an ascetic or Sádh of the Udási or of some other order. This is endowed with a grant of land, either out of the village common, or from some private individual.

It is the duty of the Sadh to spend all that he gets from the land or by begging in feeding the poor, keeping the "Langar" or alms-house going. Where, as in most cases, the occupant is an Udási, he or one of his disciples ("chela") also reads the "Granth" or Sikh scriptures. In the larger institutions of this sort the Sadh and his chelas make up a college, the former being called the "Gurn," or father of the chelas and the "Mohant" of the institution. The chelus collect money and sometimes set up in other villages similar institutions, affiliated to the original one. In former times the reputation of these Dharmsalas was very great, and few villages were without one; but their treatment in our times has, I fear, resulted in the closing of most of the old ones. The grants of land were of

course intended for the support of the institution; and under Sikh rule if a Sadh misbehaved he was at once turned out. But at the Regular Settlement the incumbent was in every case returned as owner of the land, which was at the same time exempted from revenue for the period of Settlement. The result of this has been that the Sadh has in most cases taken a wife, closed the Dharmsála to the public, and he or his children are now mere landed proprietors, with a very comfortable house built at the public expense. In some cases the Sadh has not actually married, but taken to evil courses; and the people are powerless to prevent his misappropriating the receipts. I have seen instances in which a Dharmsála of great repute has thus been ruined by a profligate Sádh, who retained the land and house; and the villagers have actually had to create another endowment and build a new Dharmsála. There was a very famous alms-house at Jassowal with endowments which amounted to several hundred acres, most of them unfortunately held revenue free in perpetuity; and this has now fallen into the hands of a worthless character, and is closed to the public. I think it is a pity that the attention of District Officers was not directed to these institutions in the early years of the Settlement, for I have no doubt that the control of the village communities over them could have been maintained.

There are two or three famous Langues or alms-houses, well-known throughout the country. That of Bágrian lies Bágrian. 40 miles south of Ludhiana and is administered by a resident family of Tikhans (called Bhaies), who hold in jagir two or three villages in our territory and more in Patiála and the other States, besides owning a large area of land. Numbers of travellers are fed daily from the public kitchen, which is open to all comers; and I suppose that about 1,000 maunds of grain are distributed to the public annually. The "dérah," or building, is a very extensive one. The family has always been in the liabit of marrying, and the son succeeds as manager. The present Blmie, Narain Singh, is a gentleman of note, and an Honorary Magistrate in his own large village of Bágrian. This Langar was kept open in the worst years of drought (1862 and 1868), when the smaller institutions throughout the country were closed; and afforded relief to numbers of the poorer classes, who flocked to it in search of food. There is also a large Langar at Jaspál Bángar, near Ludhiána, Jaspat Bangar. which is kept by a family of Udási faqirs, whose custom is also to marry. This is an ancient institution, the first endowment having been made in the time of the Emperor Mahomed Shah, and successive rulers having added others, till they have grown to some 800 acres. The present Mohaut is Pertab Das; and he appears to do his best to keep up the institution, which is held in great repute. His father, Gulab Das, is said to have died deeply in debt in consequence of his expenditure in keeping the kitchen open in the years of scarcity. The Heran Jagraon tabsil) Langar is held Heran. by an Udási ascetie; and, although its endowments are not so large as those of the other twe, it is almost as well

known. The present Mohant, Gursarn Dás, is said to have distributed

in the famine of Sambat 1917 (1862) 8,000 maunds of grain which his predecessor had stored, and to have invited the starving people from all quarters, sending no one empty away.

A whole book might be written about the religious observances,

Observances and supersti-

superstitions, &c., of the people, but I can only refer to a few points in connection with this subject, which will serve as illustrations of the

popular forms of belief.

Power of the Brahmins and pricats.

Hindus and Sikhs (except Kukas) are greatly ruled by Brahmins. Every one has a Parohit or priest for everyday life, and a Páda or superior priest (who must be a learned man, read in the Scriptures)

for marriage and other celebrations. Whatever observances a Brahmin enjoins must be performed; and there is often a good deal of tyranny, hard penauces being ordered for trifling faults. The Mahomedans have not the same necessity for priests in every-day life; but it is scarcely their own fault that they are so free, for they would readily believe anything. I think that this is the only point of superiority in their every-day religion over that of the Hindus, that they are not allowed to indulge in rites and superstitions to the same extent.

I will next note a few of the more common superstitions connected with agriculture. A Jat must, before he beguis Agricultural superstitions. to prepare his fields by ploughing for any harvest, ask the Brahmin whether the land is awake or asleep. If he is told that it is asleep, he must wait sixt days till it wakens. Then he may go on ploughing it whenever he likes. He must begin to sow any crop or harvest on Wednesday, and to cut it on Tuesday; and these rules are never departed from. Certain sorts of cattle must not be bought on certain days of the week-a buffalo on Tuesday, a cow or ox on Wednesday - and the prejudice against these days is not peculiar to the Hindus, as the Mahomedans appear to act on it. The observances attending the construction of a new well are elaborate. The Brahmin is asked to mention a lucky day and hour, and at the appointed time the digging of the well is commenced, and the "chak" or wooden frame put into the ground. The Brahmin ties a string to the chak and says some prayers, and then "gnr" is distributed to the on-lookers. When the well is ready, the Brahmins are again called and fed, as well as any stray fagirs that there may be about, and not till this has been done is the well used.

The belief in whosts and other supernatural agents is universal, and shared by Hindus and Mahomedans alike. Supernatural agency. "bhuts" and "charels." A bhut is said to be the spirit of a man who has died "av-ghat," i.e., not on the ground and according to the proper ceremonies; while a chirel is the spirit of a woman who has died within 40 days of child birth or "av-ghat," as in the

A Jat if not a Mahomedan or a Sigh is almost invariably a follower of Sultán; and in every-day life the Bharnie takes the place of the Brahmin with the Sultania; but the services of the latter are necessary for a marriage.

case of a man. Funeral ceremonies performed at Pelioa set the spirit at rest. If an evil spirit is offended it takes possession of the offender and works ills, bodily and mental. It may be expelled by a piece of red pepper put in the nose of the sufferer, or by inhaling the smoke of burnt rags. If this does not succeed, the patient may be taken to the shrine of Pir Banohi at Sunam, and the spirit exorcised. Another form of exorcism is that a lamp is moulded of dough, filled with oil and kept burning beside the patient, A girl sits feeding the lamp, and is asked what she sees in the lamp from time to time. She invents several things, and then says she sees a Darbar with people sitting in it, and amongst them the charel. On this the oil is carefully poured into a jar or bottle and corked up, the charel being, of course, in it. Men and women are said to have the power by repeating a certain charm, which few happily know, of extracting the liver from a child, thus eausing its death. Such an impleasant person is called a "Dain"; and if he or she looks at a child, death is the result. A "Deo" is an ordinary spirit who haunts old wells, pipal trees, and durk places generally. He is an orthodox ghost apparently, and many weird stories are told of him.

Sacred groves are to be found in some villages. The superstition about them generally is that they mark the spot where some holy man has become a "Sidh", i.e., been absorbed in the deity, and no one of the villagers would dare to cut even a twig of the wood. Fagirs and other holy men are allowed to take what they want for their own use; but the people believe that death would follow any such sacrilege committed by themselves. The Sidh is, strangly enough, supposed still to reside in the grove.

Social life: Arrangement of the villages.

Social life: Arrangement of the villages.

Botial life: Arrangement of the villages.

Social life: Arrangement of the villages.

But in most will be found one or two houses of masonry. In the ordinary Jat village of the eastern parts the houses are huddled together and open into narrow bye-lanes, which lead into the main thoroughfares. These lanes are seldom more than four or five feet wide. The only entrance to the village is by one or more gates, the number depending on the size of the village; and the people all live inside except the Chamars or other outcaste class, who are not admitted, and have their houses at a little distance apart or round the site, facing outwards.

The gates are the property either of the whole village, or of a subdivision of it (Patti or Thula), each subdivision having in this case its own. The form is the same in all cases. On each side of the roadway, to a distance of 20 or 30 feet, a mud platform 4 or 5 feet in height is raised; and on these are built verandahs closed on three sides, but open with pillars towards the road. The whole is roofed in (the verandahs and the roadway between them) and a very comfortable place of shelter formed,

in which travellers rest and the people meet of an evening. There is sometimes very great elaboration in these gates, and the different Pattis will vie with each other in architectural display. The style of gate is very often a safe test of the condition of a village; but there are few now that have not towards the outside an arch of masoury work, covered with some sort of ornamental design. In a great many villages the gate is a most commodious structure of solid masoury, which would cost in many cases for a single Patti as much as Rs. 1,000; but everything, including labour, is generally subscribed, wood for beams, cow dung for burning lime &c., and the only actual expenditure is on the pay of masons. It is on these gates principally that the architectural genius of the villages shows itself. I have often found shelter from a storm in a village gate amidst a crowd of natives, villagers and travellers, collected with the same object.

The interior of a village is, as a rule, fairly clean; it is outside that the filth collects. In the eastern parts Surroundings of a village. the cultivated fields come to within a few yards of the houses, leaving very little vacant space. Round the site is the usual road, and outside of this are generally small hedged enclosures (warah or "gobarah)" in which the manure heaps are kept, and the women bake the cow dung fuel. These enclosures may lie together in a piece of the "goerah," or waste land adjoining the site, or they may be between the fields and the road. Sometimes a proprietor is reductautly compelled to devote a few square yards of one of his fields to this The village ponds ("toba") are the excavations from which the clay for building the village have been dug out. They are used for purposes of ablution and for watering the cattle. The drinking wells are generally inside the village. If a few "pinul" trees about the tank be added, we have a complete statement of the surroundings of an ordinary village of the uplands in Samrála and eastern Ludhiána. These eastern villages are, as a rule, of average size: Sites of the western

villages.

but to the west, and especially in the Jagraou tabsil along the Ferozepur border, and in the Jangal, the villages are much larger, and the houses more spread out,

land not being so valuable. Enclosures for eattle and cow-dung fuel are thrown out all round, the lanes are much wider; and there is generally plenty of room round the site. The Mahomedan villages of the Bet are

generally smaller than those of the Dháia, and the Mahomedan villages of sites are more open and straggling. There are the Bét. no gates, and entrance is possible at almost any

point. The takia" takes the place of the gate in the Dhain. This is situated outside the village, generally under the shade of a "pilkan" tree, and consists of a comple of rooms, built on one side of a mud platform three or four feet high. Travellers rest here; and the people of the village meet; and above all the "hukah" is kept going. The takia is incharge of a fagir, whose principal duty is to guard the "hukah" and keen it ever alight. A rude mosque is often attached to the takia; and, if there is not one, the people pray in the takin itself. There is generally plenty of room round a Bét village, the land adjoining the site being often uncultivated; and the várah, or enclosures, are larger than in the Dháia.

68. The ordinary house of the Dháia (helonging to a Hindu Jat) consists of a "deadhi," or porch, leading out of Houses: internal arrangethe lane. On one side of this the cattle are ment. Hindu Jats. tied and fed at the "khurlis," or troughs made of mud; and on the other are the beds of the inmates; or, if the house is a good one, and there is plenty of room inside, the earts are kept here. The "deodhi" leads into an open courtyard ("sahn" in Hindustani, here called "bera") with the same arrangement as the deodhi, the latter being really used when it rains, and the cattle and men ordinarily preferring the open space. Facing the deodhi aeross the bera is the dalan or verandah, in front of the rooms (generally two) which are really the At one side of the dáláu in the "Chounka" or "Rasoli," the place where the food is cooked; and at the other side is a "Koti" or press, which is the store room of the house. The people live principally in the dalan; and the rooms (Kotri) are used for storing grain and all valuables, brass dishes &c., and one for the agricultural implements. This plan can be traced in all the Hindu Jat villages; but, while in some of these in Samrala tabsil space is so scarce that the "bera" or courtyard is represented by a mere opening a few feet square in the roof, and the whole house is but one room, the deodhi and back rooms having been united, in the Jagraon tabsil and Jangal villages the houses are very commodious, the courtyard wide, and the dalan backed with four or five rooms. In Samrala the village site carnot be extended, and has to accommodate a much larger number of people than it used to. Many houses will be found to cover a space not more than 10 or 12 feet wide, and about 30 deep; and in this are crowded the family and the cattle. In Jagraon and the Jangal there is nothing to prevent the people spreading out, and they are continually doing so, often themselves keeping to the dwellinghouse inside and making a walled enclosure, with a substantial shed for the cattle, outside of the site. I should not omit to mention that in the crowded villages the tops of the honses are much used; and for getting upon them a strong wooden ladder is kept in the lane outside the door, leaning against the wall. Every house has one of these, and the result is to make the passage through some of the villages very awkward for a horseman. The charri and maize stalks kept for fodder are stored on the top of the house.

The Mahomedaus' houses in the Bét have no "deodhi," but merely an open court surrounded by walls four or five feet high, into which the Kotri or house opens, generally without a dálán or verandah. The cooking place, called "chuliáni," is roofed separately. On the bank of the river, where there is constant danger of the house being washed away, the people live in huts made completely of thatching ("jhao" or "dib" grass), or four walls of mud have a thatching of this on the top of them.

- beds, as many low chairs (called "piri") as there are women, spinning wheels ("charkha"), cotton gins ("belna"), and a "chakki" or liand-mill for grinding corn. The women sit on the chairs when spinning &c. The farming implements are all kept in the bouse. The grain is stored in the "koti," which is a press made of mud against the wali, or in a "bekhári," which is half sunk in the wall. These presses have an opening with a wooden door in the upper part, and things are put in or lifted out of them. The "bharola" is a large cybinder of mud, used for storing grain only, with an opening at the bettem, through which the grain is allowed to run when required. These appliances are made by the women. In many houses wooden boxes will also be found, being used for storing clothes principally, also round ones of leather called "patiár."
- The cooking and other utensils of the Hindus are almost entirely made of brass, the only ones of earthen-Utensils for cooking and ware being the water jar (ghara,) and a cooking pot for vegetables (táori). The common dishes are a "prat," or basin, in which the flour is kneaded; a "gadwa" or "lotal?" for water; a larger vessel of the same shape called "dolni" in which water or milk is kept for use; "batiohi," a larger vessel, and a "gagar," larger still, made either of iron or of brass; a "thali," or plate, from which the food is enten; and a "katora" or shallow cup from which water or milk is drunk. These dishes are all of brass. The bread is cooked on the common tawa or gridle of iron, "Koul" is a small cup of brass; "karch," a spoon of brass, wood or copper. These with a "chimta," or tongs, for arranging the fire, and a "sandási" or instrument for lifting a lotal off the fire, make up the usual kitchen utensils of the Jat. Taken altogether they represent a good deal of money. The Mahomedans use an earthenware cooking pot, which they call a "handi." Their other dishes are of earthenware, or of copper tinned amongst the better classes, and have different names from those of the Hindus. They use a "kanáli," or basin for kneading; a "tabákh," or plate for eating out of; a "piála," (Hindu katora) or enp for drinking, made of earthenware. The copper dishes used are a "tháli" or plate, a "katora," a gadwá or lotáh. The "táwa" or gridle is of iron, like that of the Hindus.
- 71. The dress of the people does not differ materially from that of other Panjab plain districts. The Hindu Juts, I at generally wears undyed clothes (one can searcely call them white), made of home-spun cotton stuff. They consist in the simplest form of three articles,—a turban of coarse cloth, a waist cloth (dhoti) and a "chádar" or cloth worn over the shoulders, the last two being made of "khedar" or "dhotar," rather thicker stuff. These, with a pair of shoes made by the village chamár, constitute the simple and inexpensive wardrobe of nine-tenths of the Jat population for the greater part of the year. A

Sikh substitutes drawers ("kach") for the dhoti. On the occasion of a wedding a somewhat better dress is borrowed from a neighbour, who has been extravagant enough to purchase it, and some colour is shown in the "pagri," the white cloth being tied over one coloured yellow ("basanti") or some shade of red (kassumbhi, gulábi, &c.,) or green, or both are coloured. The people coming from the Jangal with carts affect these coloured pagris, and the mixtures are often tasteful. In the winter the Jat has a blanket of wool, if he can spare Rs. 2 to buy it; otherwise he has a "dohar" or "chantáhi," a sheet of very thick cotton stuff, double wove. In the latter case his outfit costs about Rs. 3. A wellto-do Jat will have better stuffs, and wear a short tight-fitting waist coat ("kurta") and an "anga" or "angarka," or loose long one over this, and a pair of paijamans of country or of English cloth, his turban also being made up of two pieces (a "safa" on the top of a "pagri") of superior cloth, often coloured. If he is a "swell," or wants to appear better than his fellows, he will wear a black or coloured coat, made of thick or thin English stuff (broadcloth or alpaca) according to the season; but this is a recent fashion and the garment is called a "coat." Chogas are also worn.

The Jat women wear paijamahs (called "suthan") made of "susi,"

Jat women.

coloured cotton stuff, and a chadar worn over
the head and shoulders, either coloured (young
women) or uncoloured, made of gara or dhotar, thick or thin cloth
according to the season. This upper garment when coloured may be
of dyed cloth, or of "phulkari" i.e. worked with silk flowers, or
of "silari," another form of silk work; most women also wear a
"kurti" or waist-coat like that of the men. When going to another
village, they wear a "ghagra" or petticoat above the trousers, and
a "choli" or bodice of coloured cloth.

Of the Mahomedaus the Gajar and Araien men wear a waist-cloth Mahomedau dress. (called "tahmat") of uncoloured or more commonly of coloured cloth, or a "lungi" (a check or tartau). The pagri is generally white. A lungi is also worn over the shoulders, generally blue and white, or red and white. In the cold weather they wear a "khes" or "chautáhi" of the same sort as the Jats. The women do not wear trousers, but a petticoat, generally of blue cloth, a "kurta," and a shawl, also of blue cloth. The Mahomedan Rájputs dress in much the same way as the Jats, seldom displaying colours. Their women wear "paijámahs," a "kurta" and a sheet (chadar) of white cloth. A well-to-do Mahomedau Rájput dresses in almost exactly the same way as a Hindu Jat of the same class.

72. Jewelry is called "tagáda" throughout the district, the word

"zewar" not being known. Amongst Mahomedans men never wear jewelry; and amongst
the Jats only three pieces—necklaces made of gold and coral beads strung
together ("máhla"), bracelets of gold or of silver ("kangan"), and
rings of silver or gold with roughly set stones ("mundi"). The use of

these is confined to such as are better off than the ordinary run; but a Jat will always borrow a pair of bracelets if he can on the occasion of a marriage. Boys up to 9 or 10 wear some ornament round the neck. Jat women have generally a greater display of jewellery than Mahommedans, because they are fonder of show, and also because their husbands are better off and can afford to give them more. A Jat woman in a well-to-do village will turn out for a wedding covered with ornaments of silver, and here and there a piece of gold. The ornaments commonly worn are the same for all classes except that Mahomedan women will not wear any on their heads. The following is a list of those in general use:—

Where worn.	Name.	Description.	Price.
HEAD.	Chaunk	A silver boss worn on the top of the head	Rs. 9 to 15
H }	Phul {	A smaller boss of silver, worn one on each side of the head over the cars	} 1 to 2
æ (Bandian	A fringe of gold worn across the brow	30 to 60
Ввож.	Tavetrian {	Amulets of gold worn hanging over the brow (six)	} 6 or 7
EAR.	Dandian Bálian with Pipalvatri Dhedn with chumke or kánphul Bála kungriwala	त्यापांत्र ज्ञानं Earrings and pendants worn in the ears, made of silver.	5 7 to 9 12 to 15 2 to 3
Nosz.	Nath with { chutki {	Silver nose ring with gold pendant, worn in the side of the nose	20 to 40
	Machli	Gold ring for the middle of the nose	10 to 15
	Loung	A gold stud let into the side of the nose	1 to 3

Where worn.	Name.	Description.	Price.		
NECE.	Tundira or has	Necklet of si'ver	15 to 26		
	Máhla	Necklace of silver beads	7 to 9		
	Hamel	Ditto of Rupees joined together	15		
	Chaukián	Ditto of aquare-pieces of silver	10		
	Gokru	Silver bracelet	20 to 30		
HAND AND ARMS.	Kangan	Ditto	10 to 15		
	Churian	Ditto	20 to 60		
	Ponchi	Ditto made of strong beads of silver	} 80 to 100		
	Bázuband	Armlet	10 to 15		
Feet	Banks, Tore	Silver anklota	15 to 20		
FIN.	Angustri, chhalli, mundri	Finger rings of silver	1 to 2		

The workmanship of this jewellery is the roughest descriptions.

73. In the cold weather the food of the common people cousists of cakes (chapótti) made of joár (millet) or of maize, a mess of "dál" or pottage of moth or másh (pulse), with some green sarson or gram cooked for vegetables ("ság"). With this is drunk "lassi" or butter-milk. In the hot weather bread made of wheat, or of wheat and gram mixed ("bérra") is eaten instead of maize or millet, with dál or pottage of gram. A man working in the fields will eat one small meal, generally the leavings of the previous day, with some "lassi" in the morning after he has been working a few hours, and a heavy meal at noon. This food

is brought to the field by the women or children. If he is tired and hungry in the afternoon, as he generally becomes in the long days of the hot weather, another small meal is taken about 4 or 5, and the day's labour is crowned with a heavy meal by way of supper in his house after dark. An able-bodied man working in the fields all day can eat upwards of a seer of grain made into cakes (if he has nothing else to eat with it), the allowance for each woman and child being seer or less. Vegetables of all sorts, pumpkins, carrots, and radishes, &c., are eaten when in season, and the amount of grain consumed is then The Bet people grow and eat "kaddus," "kakris" and radishes, while in the Dháia carrots, radishes and green sarson are the usual form of vegetable. The Dháia people are very foud of a mess of Indian corn meal (alan) and carrots or sarson mixed, the grain being only about one-third of the whole. On the occasion of a marriage or other ceremony superior food is consumed, and a great deal of sugar in some form or other (gur, shakar, khaud, &c.)

The daily life of the ordinary cultivator is perfectly monotonous, though perhaps not more so than that Daily life and work. of any farm labourer at home, rest succeeding toil for most days of the year. A marriage or a fair gives The people of the western parts have much an occasional diversion. more variety and less toil. The youth of Amusement. the Jagraon and Jangal villages have several games, the principal of which are "sonchi" and "kabadi." the first of these, which is played throughout the Panjab, one man runs backward, and two follow and try to catch him, he striking them off with his open hands. Kabadi is described in Forbes' Dictionary; and is a sort of prisoner's base. Wrestling is not common. More intellectual amusement is sometimes found in listening to songs sung by one of the people, or by itinerant singers (mirassies or dhádis), who recite the tales of "Hír Ránjha," "Sassi Punn," or such others to the accompaniment of a fiddle ("sarangi") or a tambourine ("dhad," "dhourn"). But it is only in the rainy season that the ordinary cultivator has time to listen to these, for he is generally much too tired by the evening to think of anything of the sort. Occasionally a body of Nats or Bázigars (strolling acrobats) visit a village, and the people will collect to see the exhibition. But it cannot be said of the agriculturist of the district, Hindu or Mahomedau, that he is fond of any sort of amusement, for his hours of idleuess are few and time is never heavy on his hands.

75. The divisions of the day are as follows:—

"Amratvela" ... Sunrise.

"Cháhvélá, lassivela" ... Morning.
"Rotivela" ... 10 to 12 o'clock.
"Dopahr" ... Noon.

" Dindhala" "Tíjapahr" " Londévéla"			•••	Afternoon.
"Athan" } "Takála" }	•••	•••		Evening.
" Dhandulkán"		***		Dusk.
" Rát"	•••			Night.

An account of the months will be found in the chapter on agriculture.

The ceremonies observed on the birth of a child by the Hindu portion of the agricultural population are Customs connected with as follows: When the midwife is called in, Hindus: Mahomedans.* she ties a branch of the siris tree, and an iron ring over the door to notify the birth, and also to keep away evil spirits. If a son is born, the father goes at once and informs the pada or priest, and inquires whether the time is anspicious or not. If it is not, the father must make offerings to the Brahmins. In eases of the worst combination of stars, called "gand mil," the child in former times was thrown out to perish, as it was believed that both parents would die if they kept it. The mother is kept close in the house for 13 days after the birth, when the pada is called and gives a name to the child, on which occasion he receives Re. 1, and the Parohit and others something. Brahmins, fagirs and the neighbours are also fed: and sweetmeats distributed, considerable expense being incurred. This is in token of the purification, that the "Sutak" or impurity is removed from the house. For a further period up to 40 days the mother does not mix with the rest of the people, only with her relations. None of these ceremonials are observed by the Jats in the case of a girl, except that "Sutak" is kept. A Hindu child has no further ceremony by way of baptism &c. to go through. A Sikh generally takes the "pabul" when he has arrived at years of discretion. The whole of these ecremonies are not strictly observed by the agricultural portion of the community. The name is given to a son in the case of a Sikh by opening the "Granth Sahib" and taking the first letter of the page. Other Hindu Jats do not as a rule ask the Brahmin "pada" for a name; but give one themselves or ask the "Bharaie." The period of 40 days seclusion (called "chilla") is not kept unless for some special reason. Amongst the Mahomedans when a son is born the Qázi or Mulalli (priest) comes on the first to the third day and recites the "Kalama" for creed in the child's ear, and it receives a name from the priest or from some respectable relative. The mother is impure for 9 days to the members of the household, and for 40 days to the rest of the world. The termination of this period of 40 days is celebrated by a feast ("Agiga"). Circumcision ("Khatua") is performed by the Naie when the Mullah indicates the proper time, but no age is fixed. The boy is generally 4 or 5, but may be 10 or 15; and

† It is the "bang" or call to prayer that is recited, not the "Kalama."

^{*} I have condensed into the next few paras such information as is essential regarding the customs prevailing amongst the agricultural population in connection with birth, marriage and death. For further details I would refer to the separate account of the customs of the District.

if he has grown up he is generally drugged with "bhang" to deaden the pain of the operation. The Naie is paid, and a small feast given to the relations, who contribute something by way of "tambol." In the case of a girl, the days of impurity are observed, but the name is given by any one. The Rajputs generally spend more than the Gujars and Araiens on the "aqfqa" and circumcision.

Retrothal: Hindu Jata: "Pun" betrothals and for consideration; price of girls.

There are now amongst the Hindu Jats two forms of befrothal, where money is taken by the girl's people, and where it is not ("pun").

The latter is the only pure form. The girl's parents generally make inquiries beforehand and fix on some family with whom they should like an alliance, and in which there is a boy suitable, the only restriction being that the family does not belong to four "gots," with which the parents are alreday connected (see the account of customs). The Naie or Brahmin of the family (lági) is sent to the house selected and makes the proposal. If it is accepted, he returns in a few days with money and sugar which he has received from the other family. The father of the boy calls the neighbours, and the "lagi" is seated on a high place with the others all round him by way of doing him honour. The parchit or pada of the family makes the boy say some prayers, and then the "lagi" puts a mark on the brow of the boy ("tilak"), and gives him the money and sugar into his lap. This completes the betrothal. It is said that before annexation taking a consideration for girls was unknown, because the rulers would not permit it; and it is still forbidden in the Náblia state. But now the custom is almost universal, although the transaction is still kept secret, and is never admitted; and only a few of the better families abstain from it. Indeed a Jat considers the birth of a daughter a piece of luck, for the ordinary price has in recent years run up very high. No wonder that marriage is now considered a luxury, and one wife enough for a whole family. I have already expressed a belief that polyandry is common in practice, and the manner in which the brother claims "karewa" on the decease of the nominal husband supports this. The girl is considered as purchased by the family, who can seldom afford to pay so large a sum as her price twice over. In the case of a betrothal for consideration the parents of the child accompany the "lági" and a bargain is struck. Part of the price is paid, and the lagi performs the usual ceremonies. Betrothals among the common Jats take place now-a-days when the girl is 10, 12 or even older, for the longer she is kept the higher price she will fetch. Boys are kept till 18 or 20, because their parents cannot collect enough money to pay for a girl.

78. Marriage under the circumstances generally follows soon after betrothal. If the betrothal is "pun," the girl is married at about 9 years of age: otherwise when the money agreed on has been paid. The padas of both parties are consulted and a date fixed. The bridegroom and

a few relations go as a marriage party (barát) to the bride's house, and the marriage ceremony is performed.

The ceremonies attending marriage are as follows: A place is marked off (called "bedi") with four upright Ceremonies of marriage. stakes joined with cross-pieces of wood at the top, and inside of this the pair are seated with the Brahmin who celebrates the marriage; and a small fire is lit and kept up with "ghi." The Brahmin marks off on the ground with flour what is called a "chank," a square divided into compartments each representing some deity, and worships this in the name of the bride and bridegroom. When the prayers have been said, the marriage "mantar" or charm is repeated; and the pair walk round the fire and "chank" (ceremony called "phera") four times, the women of the spectators singing and the Brahmin repeating his "mantars." This completes the ceremony: and the bride and bridegroom return to the home of the latter. The bride spends a few days there, and then goes back to her parents, with whom she resides till she is finally made over to her linsband two or three years after (muklawa). There is almost no expense over an ordinary wedding; but where the parents are very well-to-do there is a large marriage party, and all the people are entertained at the bride's house, a good deal of money being spent on dancing girls, fireworks &c., besides. It is also the custom in good families to give with the daughter a dower of cash, jewelry, &c., * and, as it is coming to be considered a sign of social rank to be able to do so instead of taking money for her, it is likely that the custom will spread.

All the clans of Jats practise karewa or widow-marriage. The Second or "karewa" marriages.

The neighbours are called, including the Lambardars or respectable members of the village community, as witnesses of the cercunony. The Brainian says a few "mantars," making a "chauk" as in a first marriage, and ties the clothes of the parties together. The man then puts a sheet over the woman's head and she becomes his wife. There is no "phera," or walking round. More will be said on this subject later when I notice the tribal codes; but I may observe here that there is an increasing amount of laxity in the matter of these second marriages, and people live together as man and wife without going through any ceremony. Such conduct is punished by a heavy fine under native rule.

Betrothal and marriage boy to go to the house of the girl selected and make the proposal. If it is accepted Re. 1 and 11 seers (katcha) of sugar, and some clothes are given to the girl, and also ornaments. The priest (Mullah) is called, and, the girl's father declares the betrothal. The boy's father is given in return a "pagri" and "khes," and is well fed and sent

^{*}Called "dahez" or "dáz,"

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Betrothal and marriage amongst Mahomedans it is the custom for the parents of the boy to go to the house of the girl selected and make the proposal. If it is accepted Re. 1 and 11 seers (katcha) of sugar, and some clothes are given to the girl, and also ornaments. The priest (Mullah) is called, and the girl's father declares the betrothal. The boy's father is given in return a "pagri" and "khes," and is well fed and sent

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do not go beyond grumbling. The Harnis, Baorins and other professional criminal classes are not showing many signs of regeneration under our rule; and to their account a great deal of the crime of the district must be set down. Even with them the amount of crime is not more than normal; and the district will compare favourably with most in the province.

There is a daily increasing love for litigation, which is most strongly developed amongst the Jats. The Litigiousness. most petty cases are fought out to the bitter end, and both parties freely use suborned witnesses to support their claims. The ordinarily houest peasant appears quite to change his character when he comes into our courts; but this is perhaps not to be mentioned as a feature peculiar to this district. The use of spirits and drugs is very uncommon amongst the agriculturists, who are a most frugal people. The Garéwal Jats used to Ure of spirits and have a reputation for using opium and "pcst"; drugs. but the custom is disappearing with the The other Jats and the Bet people appear to be free last generation. from vices of this sort, except that the latter indulge to excess in smoking tobacco. In the towns the Suds and some of the lower classes

from down country cousume a great deal of spirits; but the ordinary

Hindu and Mahomedan still considers it a sin to do so.

If we are to judge by the standard of other parts of the Province I should say that the state of the agricul-General state of comtural population was one of very considerable fort. confort. They are a simple people, and have few Their food is good, and they have enough of it; and they are according to Indian ideas well-clothed and well housed; while their fine physique plainly shows that they do not suffer much from deficiency of nourishment, or from exposure to the elements. Amongst the lower menials in the villages (chamárs), and the classes in the towns which subsist by labour (notably the colony of weavers in the city of Ludhiána) there is at times a good deal of privation. The chamars have fixed allowances of grain which are assured to them; but the other classes mentioned receive a cash wage, which is very low, and are sufficiently fed only when grain is cheap. Amongst agriculturists the Mahomedans as a rule are improvident, and live a hand-to-mouth existence; but their

Agricultural people of Bet.

possession of the moist lowlands is an insurance against complete failure of the food-supply. The Gujars and Rájputs generally have dealings with the money-lender, and pay him in kind; and this makes it impossible for them to keep stores of Their credit is good, and they can unfortunately raise money whenever they require it on the security of the land; so that they never want for anything. An ordinary house in the Bet is comfortable, but will not be found to contain much of value in the way of jewelry or dishes. The cattle used for agriculture are very inferior;

but the milch kine are good, as there is plenty of grazing ground: and the principal wealth, at all events of the Gujars, consists of their buffalo cows. The Araiens and Awans mostly get on without incurring debt; and I believe that the number of Gujars and Rajputs who do so is daily increasing. There is also a fair proportion of men of all these classes who are able to advance money on the security of land. I have already referred to the Awans as keeping carts that work for hire, and some Rajputs have followed their example. The villages of the Ludhiana Bet derive great profit from the proximity of the city, in which there is a ready market for the sale of all sorts of miscellaneous produce. Although the money-lenders may seize on the grain, the straw is left; and in a year of drought this fetches a very high price. the people being able to sell it, and depend on the grass along the river and Budha Nála for the food of their cattle. At the present time (September 1883) straw is very dear; and there is a constant demand for it on the part of the Jangal people. Many villages have sold Rs. 400 or 500 worth within the last few_days.

The Hindu Jat is by nature provident. His house will generally be found to contain valuable property in the Hindu Jate. way of dishes, jewelry and clothes, besides a sum in hard cash. In the eastern parts the m valuable crops are the cane and maize; and these must But even here there turned into eash soon after the harvest. is generally enough grain in store to last for a year. In the western villages (Jagraon and Pakhowal) the condition of the Juts is more than one of mere comfort. The houses are superior, there is a great display of jewelry and brass dishes, and the cattle are of a very high class. Almost every house contains a supply of hard cash; and the rabi grain of two years the kharif does not keep well, and is not stored) is generally kept till the third harvest is secure. A common sign of wealth in a Jat is some masoury work about his house; either an archway, or the whole porch, or even the whole house is built of burnt bricks. Masoury work is more common in the west than in the eastern parts; but most villages have some houses of it. "Havelis" or mansions belonging to Jats who have made money in service or by trade are springing up in many villages. I have elsewhere given an account of the manner in which the Jats have monopolized the carrying trade. They are able to take up the greater part of the land that is mortgaged; and would have it all, but that there appears sometimes to be a foolish prejudice against a man mortgaging to his "sharik" or co-sharer, the idea of which appears to be that a man's indebtedness is not likely to be known, and he cannot be twitted with it, if his creditor is of the banking class. I need not do more than allude to the large fortunes made in trade by the mercantile classes in Ludhiána and the other towns.

This state of comfort and prosperity is entirely the growth of recent years. Under the Sikhs the cultivator had little room for saving left; and there was no opening for trade or for remunerative

MAHOMEDAN IN- STITUTIONS.							нілі	DU AN	DSIK	n.				
ON J.Y	IN WHICH OTHER INSTRUCTION IS GIVEN.		B IN-						SHASTRI (NAGRI).		SANSKEIT.		Perstaw.	
Schools.	Boys.	Schools.	Boys.	Schools.	Boys.	Schools	Boys.	Schools.	Bays.	Schools.	Boys.	Schools.	Beys.	
131	1,101	62	807	20	567	141	1,410	36	351	5	173	1	2	

The Mahomedan attendance includes 259 girls. It is likely that many of the pupils in this return would not appear in the census tables as "under instruction." For example, those learning portious of the Qoran could scarcely be so designated.

D.-Village Communities.

As an Appendix (No. 7) to this report will be found a statement of the forms of village tenures in the Constitution of the village district according to the accepted definition communities. of the terms zemindári, bhainchára and pattidari. But little information as to the real constitution of the villages is to be derived from this classification, if indeed it is not distinctly misleading. In the form of statement (see also paras, 103 and 104 of the "Directions to Settlement Officers," Barkley's Edition) I read that a bhaiachára village is one "in which possession is the measure of right in all lands," but I believe that for right we ought to read liability; and that the distinction comes to be a mere question of the manner in which the assessment is distributed This makes a very material for the time being amongst the sharers. difference, for in numbers of villages, although the shares have become obsolete to this extent that they are not used for distributing the assessment, the village common land and the receipts from it are still divided according to them (as noticed in para. 112 of the Again, almost every village has got some area, Directions). however small, of common land, in the receipts of which the community participate; and this fact makes the tenure "imperfect."

The purest form of the village community is that in which the proprietors are or keep up the fiction of being descended from a common ancestor; and of this type there are only a few villages in the district, belonging mostly to Rájputs. I have explained in para. 50 the manner in which most of the Jat villages were founded by several families, which generally belonged to different "Gots" or

subdivisions. The land was in the first instance divided according to shares (called "hal" or plough), a number of these being assigned to each family according to its strength. The "bal" differed according to locality, but was as much as it was estimated that a pair of oxen could plough. Under native rule revenue was realized in kind or by cash on the area of certain crops; but the people retained these customary shares and used them in the distribution of common receipts and in payment of fines, cosses, &c. The subject will be more fully discussed in the second part of this report; but I may state the result generally to be that under our rule, owing to improvements in the land, transfers, &c., the shares have been generally abandoned as a measure of liability for Government revenue, but retained as a measure of right in the village common property and of liability for casual demands (e.g., "malbah.") The native states around (Patiala, Jhind, Nabha and Maler Kotla) have followed our example and substituted a cash demand for revenue taken in kind; but it is everywhere distributed on the shares (halsári.) It is only in the Bet and in a very few Dhaia villages of this district that the people have of their own free will adhered to the shares under our rule. There is no village that I know of in which the land was originally occupied piecemeal without a formal division according to shares. The original distribution is generally most elaborate, the whole area having been divided into blocks according to quality, and each sharer getting his portion in each block. Sometimes the land of each subdivision is separate, and there is then this same arrangement amongst the sharers inside of it. I should say, then, that the villages were all pattidári (or zemindári) in their origin; but that in most the shares had fallen out of use for purposes of defining the liabilities of the sharers.

The subdivisions of villages are tarafs in some of the larger villages, pattis in most; and inside of these thulas. The proprietors of a thula are generally of the same Got, and often the descendants of a common ancestor. Each thula will be found divided into ploughs that), which may be either "packa" or "katcha," the former representing the original distribution of land, and the latter subsequent partitions; but the size of the plough now merely depends on the number of sharers in the subdivision, and it may or may not be the same for the whole village. Thus the land of a village may be divided equally between two pattis, and subdivided inside one into 20 and inside the other into 25 ploughs.

In most villages there are lands held by persons who are not members of the village community (malikan kabza). These lands have generally been assigned from the village common as endowments to

some holy man (see para. 65).

86. The Government village officers are the usual ones, the lambardar or headman and the patwari or accountant, paid by a cess at the rates of Rs. 5 and Rs. 3-2 per cent. on the Government

revenue, and the chowkidar paid Rs. 3 per mensem which is raised by a collection on houses. The appointment of zaildars, to be paid by a deduction of 1 per cent. from the Government revenue, has been sanctioned; and also some annual allowances of Rs. 20 to 30 (here called "poshaki") to selected lambardars.

The total number of lambardars is 2,747, and the average remuneration per annum Rs. 20. Previously to the The lambardars or village regular settlement the lambardars were a headmen. strong hody, well paid and selected as really leading members of the agricultural class; but in the inquiry which was then made their number was more than doubled. Even yet the pay is generally very fair in the Dhaia, but in many Bet villages lambardárs receive as little as Rs. 2 to 3 a year; and the law does not permit of the number being reduced in any village without the consent of the proprietors to be represented. There is very little to distinguish most lambardars from the rest of the proprietary body. Not one in a hundred keeps a horse or pony; and their sole idea of duty to Government is that they must realize the revenue and their own allow-In fact till recently the first of these was relegated to the patwari, who regularly accompanied the lambardars when taking the money to the tabsil in case that it might be misappropriated. It is, perhaps, a sign of progress that the authority of the lambardars, such as it was, is daily diminishing; but a further weakening is likely to lead to much administrative inconvenience. In many villages the sharers, though perfectly able to pay their revenue, neglect to do so, well knowing that the lambardar will get into trouble; and the latte: has at best a very clumsy remedy against defaulters.

The "Kharpanch" deserves mention as a growth of our system.

Kharpanch.

He is a sharer who has acquired a reputation for eleverness and for knowing law; and has probably sharpened his wits by hanging about our courts. He is invariably in opposition to the lambardars and to Government; but his advice is taken on all matters by individuals or by the whole community. Any one wishing to institute a case consults him; and he is always ready to suggest to a sharer some cause of quarrel with his neighbour. The "Kharpanch" is in fact the village mischief-maker, and everybody's business is his.

The "tolah" or "modi" corresponds to the "dharwáie" of the MánThe tolah or weighmen.

The tolah or weighmen.

The tolah or weighmen.

Other numerous vocations. Besides his private business of shopkeeper he managed the "malbah" or village fund, and made ont what were accepted as patwáris' annual papers for Government. Some account of the present patwáris and their attainments, will be found in the second part of this report.

. The village menials will find a more suitable place in the chapter on Agriculture, as their tasks are a part of it.

- 87. In every village there is a common fund ("malbah")

 Common village property; income and expenture; village cesses.

 managed by the lambardars. There were
 formerly various sources from which money
 came into this:—
- (1.) Receipts for sale of produce of the common land, and rents paid for cultivation of it.
- (2.) "Atráfi," or a cess levied on the houses of the artizans, and sometimes of the shopkeepers, at the rate generally of Re. 1 per annum on each shop or house.
- (3.) "Dharat" or "tulai." Whenever grain was sold in the village it was weighed by the "tolah," who charged at a certain rate on each transaction, and credited a portion of these receipts to the village fund.
- (4.) There has always been a good deal of expenditure from the common fund, principally on feeding fagirs and other holy men; and, as this generally exceeds the receipts, a collection has to be made from the sharers. The second and third sources of income have survived in only a few villages; and with the spread of cultivation the first does not remain in many. In the castern villages the funds are invariably raised in the following way: the lambardars have the power of incurring expenditure as necessary, getting the money from some appointed shop, and the account is made up once or twice a year, the sharers being entitled to have it explained to them. The amount spent is then collected by a "bach" or contribution from the sharers. In some villages the proprietors have allowed the lambardars to realize a small percentage on the land revenue for this purpose, and the latter are then responsible for the whole expenditure. In a few villages to the west (Jagraon and Pakhowál) atráfi is still realized; but the proprietors generally prefer to divide the receipts, keeping the public account separate in the manner described above. When considerable sums are now and again realized by the sale of wood on the common land this same course is followed. In the Jangal villages, the whole village expenses are paid by Dharat, or fees on sales of grain, the transactions in those parts being much more considerable than in the eastern villages. Disputes about the village fund are constant, and the endeavour is everywhere to deprive the lambardars of the power to spend money for any purpose. The sharers are usually put up by some knowing one to question this right, and the management of the common fund becomes a standing cause of quarrel.

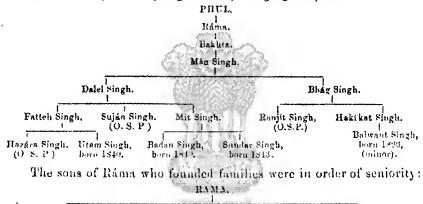
E.—Leading Families of the District.

88. At pages 253 to 272 of Griffin's Panjáh Rájas will be found an account of the Bhadonr Chiefship, and of the manner in which the Patiála claims over it were rejected on their merits in 1855. The

estate was a portion of this and of the Ferozepur districts, the villages of this being in the Pakhowál tahsíl till the year 1858, when the whole was transferred to Patiála, the supremacy being allowed by favour of the British Government and not by right. It is not necessary under these circumstances that I should do more than mention this family. Sardár Atar Siugh resides principally at Ludhiána, where he has built a magnificent house, and has opened a public library. His services in the cause of learning are too well known to require to be noticed here; and he has acquired a great amount of local influence.

The leading family of the district is that of Maloud, a branch of the Phulkian stock, of whom mention will also be found at pages 273—276 of the "Rájas."

I may us well repeat the pedigree here, bringing it up to date.



Raja Ala Singh.

Duna (Ancestor of Bhadour Family.) Bakhta.

(Patiálá.) (Maioud.) Ala Singh and Bakhta left Bhadour (which had been founded by Ráma) to Duna as the eldest brother, and went to seek their fortunes elsewhere about the year A.D. 1720. Bakhta settled a few miles east of Bhadour in the village of Dhapáli, where he had connections, till he was called by a Jat of the name of Sahna, who had attempted to found the village which still bears his name, but was pressed by the neighbouring villagers. Bakhta built a rude fort which was called Kot Bakhta, and made this his head quarters; but the name of Sahna has stuck to the village, which still has a large fort belonging to the family. Mán Singh, the son of Bukhta, conquered the Maloud ilaqa from the Maler Kotla Afghans about the year 1750 A.D. This was the period of activity of the Cis-Satlej Sikhs against the Mahomedans which culminated in the fall of Sirhind in 1863. Mán Singh died leaving an extensive estate to his two sons, Dalel Singh and Bhág Singh, who quarrelled about the division of this, and the dispute was referred to Sardár Chuhar Singh of Bhadour.

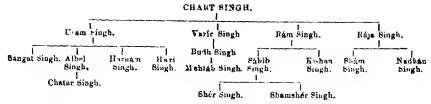
The decision then given has established the rule of succession in the family. The elder son got two-thirds, and the younger one-third; and it is according to these proportions that all subsequent distributions of the jagir have been made within the various branches. There have never as yet been more than two sons to succeed in any The Malond family maintained a position of independence, the relationship to the Patiala Rajus giving it immunity from the attacks of its neighbours. It came under our protection with the other Cis-Satlej Chiefs at the beginning of the century. When the Ludhiana district was formed out of the territories annexed in 1846 the Malond estates were included in it; but the jágír was maintained in its entirety, as the family had not been compromised in the struggle of 1845. The jagirdars were allowed to continue collections from the cultivators till 1850, when a cash assessment was fixed for the villages of the jagir. The family, like all other Cis-Satlej chiefs, except the six treated as independent, was deprived of all powers (see para. 34); and its local influence may be said to have almost ceased, for the Jats, who make up the population of the villages, have little respect for any one who cannot display anthority over them. In 1860 the representatives of the three main branches were invested with magisterial powers, to be exercised within the local limits of their jagirs; and this measure has done much to resuscitate the influence of the family, and has placed it in a much better position with regard to the people, who up to 1846 were as much its subjects as the villages of the Patiála state now are of the Maharaja. The value of the jagir, as recently assessed, is Rs. 85,077, a id it is thus distributed between the four members of the family:-

(1).	Sardár	Utam Singh	•••	43,136
(2).	Do.	Badan Singh	•••	15,782
(3).	Do.	Sundar Singh		7,792
(4).	Do.	Balwant Singh		18,367

The family, besides enjoying these revenues, also owns a good deal of "Bir," or land reserved by the chief for grazing, fire-wood, hunting &c., as well as all holdings of such proprietors as absenued on the introduction of a cash assessment or subsequently. Some of the Birs are of considerable extent, and are still covered with a growth of wood. The villages of the jagir were distributed between the other sardárs before annexation; and in 1878 between Sardár Badan Singh and Sardár Sundar Singh.

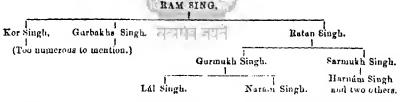
- (1). Sardár Utam Singh, the head of the family, lives in Rámgarh (near Maloud), where there is a large fort built by his father, Sardár Fattch Singh. He has also the fine old fort at Salma, built by Chaudri Bakhta; but this he seldom visits. Sardár Utam Singh has the powers of a magistrate of the second class, and civil powers in cases up to Rs. 300 value.
- (2 & 3). Sardar Mit Singh had two forts, a very large one at Maloud, and a smaller one at Pakhoke. The former was assigned

- to Sardár Badan Singh, who resides in it, and exercises the same criminal and civil powers over the whole estate belonging to his branch as 'ardár Badan Singh does in his share. Sardár Mit Singh lent his best assistance in the mutiny, supplying horsemen and footmen to the extent of his ability. For this he was rewarded by the perpetual remission of half of his commutation money; and, while the other branches pay two annas in the rupee of their revenue, his descendants have to pay only one anna. Sardár Sundar Singh resides at Pakhoke.
- (4). Sardár Hakíkat Singh died in 1875, and the estate has since been under the management of the Court of Wards, his son, Sardár Balwant Singh, being at the Wards' School, Amballa, a young gentleman of 16 or 17 years.
- The next jagir in importance to Maloud is that of Ladhran. The ancestor of this family, Jai Singh, was Family of Ladhran. a Gurm Jat of Karanke Dhirke near Atari in the Amritsar district. He was a member of the Nishanawala coufederacy; and in the scramble for territory which followed the capture of Sirhind in 1763 A.D. seeared a piece of country lying between Ludhiána and Samrála with 27 villages, and seven others in the Kharar tabell of Amballa. Jai Singh gave his brother, Nahr Singh, one of the former villages, Palmazra, which the descendants of the latter still hold. Jai Siugh had two sons, Chart Singh and Kharak Singh, the latter of whom was a noted robber, and was allowed by his brother one village, Ranwan, which still belongs to his descendants. The rest of the territory went to Chart Singh, who in A.D. 1809 accepted British protection. There was a dispute with Paniala as to the Kharar villages, which ended in the Ladhran family getting four out of seven. The territory in Ludhiána was small; and the relations between the family and the Nábha state appear to have been rather doubtful. At pages 392-394 of the Panjáb Rájas will be found an account of the claim to supremacy set up by Nahha, and the decision of the Government of India on it. Although tht Ladhran Sardárs, like others of the Nishánawálá group, were at times in actual opposition to Nábha, there can be no doubt that they gradually became to some extent dependant on that state. After the eampaign of 1845-46 the Ladhran territory passed into our hands, and was included in the Ludhiana distriet, the jagir having maintained to the family. The descendants of Chart Singh are very numerous; and the jagir, which is worth Rs. 24,000 in all, is becoming more and more subdivided. One or two of the family have taken to service, Sardárs Hari Singh and Albél Singh being Rissáldárs in the 12th and 13th Bengal Cavalry respectively; but most of them prefer to eat the bread of idleness. It is likely that in another generation or two the shares held by many members of the family will be insufficient for their maintenance. The pedigree of Chart Singh's descendants now alive is as follows:--



The rule of succession is "Chundavaud," i.e., the estate is partitioned according to the number of wives of the deceased, the children of each wife dividing a share between them equally. Mahtáb Singh, Shám Singh and Nadhán Singh have still very fair incomes. The family also own landed property, one whole village and shares in several more, and some very fine houses at Ladhran where they all reside.

90. Other existing jágírs in the Samrála tahsíl are: (1) Kotla Other jágírs in Samrála tahsíl: Kotla Badla. The founder of this family was Rai Singh, who came from the Amritsar district in Sambat 1916; and on the fall of Sirhind secured four villages, Badla, Kotla Badla, Bhari and Saidpur. The family, like others of this tahsíl, maintained its independence in the midst of its more powerful neighbours; but it is probable that all of them would eventually have been absorbed by the Phulkian Chiefs or by Lahore but for our interference. The villages came to us when the rest of the country was sunexed in 1846. The pedigree of the family is as follows:

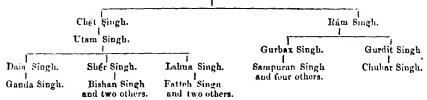


The descendants of Kor Singh and Gurbakhs Singh hold Badla and Kotla Badla; but they are too numerous to mention. The other branch is much better off; and Lál Singh is a man of some means, and has a good deal of influence. The whole jágír is only worth Rs. 7,611 per annum.

(2.) Jabu Mazra.—The founders of this family were Rái Singh and Rám Singh, Jats (Kang), from Amritsar.

About A.D. 1763 they secured 16 villages to the south-west of Khannah; but were exposed to constant attacks from Patiála and the Kapurthala chiefs, who finally annexed and divided the whole estate. The sardárs complained to the Resident at Amballa, and eight villages were restored to the family. These they now hold with a revenue of Rs. 10,722. The pedigree is—

RAI SINGIL.



There are two branches—one (Rám Singh's) residing at Jabu Mazra; and the other (Chét Singh's, at Dhiru Mazra. There is little to distinguish these men from the Jats around them except their extravagance, and not one of them is in service. Ganda Singh and Chuhar Singh are the heads of the families at present.

(3.) Kotla Ajner.—This is a jágír of four villages acquired by the Kotla Ajner.

Ancestor of the present holders, a Mánjha Jat, subject to the Ahluwália Chief. The lands came to us hy annexation with the other Kapurthala territory in 1846; and the jágír was confirmed to the family, half to be held in perpetuity. The revenue is Rs. 4,132, of which the members of the family now receive half. The pedigree is—

RUP SING.

Guláb Sing.

Guláb Sing.

Bhup Singh

Bhup Singh

Bhup Singh

Bhup Singh.

Bhup Singh.

This family is of no importance at all; and none of the members arc in service. Other jagirs of less note arc:

Nishánwálá; holding four villages in shares with Government (Rapálon, &c.) The revenue of the jägírdárs is Rs. 2,343, which is divided amongst six or seven families.

Sontiwala; holding three villages in shares with Government, and having an income of Rs. 5,231.

Shamspur; two villages with income to the jagirdars of Rs. 2,587.

Saloudi; one village (shared) with an income to jágírdárs of Rs. 1,703.

These are four communities of jagirdars, descendants of old Sikh confederacies. The Bhaie of Bagrian (see para. 62) and the Dhin Mulanah (Amballa) sardar have each a village in jagir.

Mention has been made in Chapter II of the various minor chiefs who held the talisil at the time of antices: Sodhis of Muchiwarah. Such of these as were driven across the Satlej, and have no further interest for us here, I need not notice: but there are one or two whose families

have since become extinct; or who, though losing their possessions after the Satlej campaign, maintained their local connection. The Sodhis of Máchiwaráh held two or three villages in the neighbourhood of that town, and a masonry fort in it; but the jágír was confiscated for their conduct in 1845. A representative of the family still resides in Máchiwárah, and owns a little land; but has no position.

There were a good many branches of the Kákar family, which came from the Jalandhar Doáh. One of these took possession of several villages about Bahlolpur; but was spoiled by Máharája Ranjít Singh who, however, restored some of their possessions, giving them in jágír. For the conduct of the family in the war of 1845 the greater part of the jágír was confiscated, and the rest lapsed by escheat shortly after. The only legitimate survivor at present is a female, who holds the family fort at Kakrálá.

There was a large jágír held at the time of annexation by Sardárni Daian Kour of Khannah, the daughter of Dasoundha Singh, a Mánjha Jat, who had established himself at the same time as the other jágírdárs from across the Satlej—see paragraph 26. He was the servant of Tárah Singh Ghniba referred to there. Daian Konr was the widow of a son of the Rája of Jhínd; and was continued by us in the possession of the jágír of her father's villages till her death without issue in 1850, when the jágír lapsed. She had a large fort at Khannah. The jágír consisted of seventeen villages with a jamma of Rs. 30,217.

The aucestor of the Kheri Sardárs, Nand Singh, was a Jat who came from the Manjha to assist in the capture Kheri Jágir. of Sirhind; and afterwards established his power over a very fertile piece of country in the south-east corner of the tahsil. This was then only partly settled by Mahomedans and others, many of whom described their lands; and to Nand Singh is due the founding of most of the villages of the Kheri iláqa, which is now the richest and most highly assessed portion of the district. The family maintained an independent position till they were absorbed by us in The jagir was continued to S. Basant Singh, who was succeeded by his son Hari Singh, who died without issue in 1866. The jagir then lapsed. Sardárni Nihál Kour, widow of Hari Singh, and two other female relatives, Ratan Kour and Sálnib Kour, enjoy considerable cash pensions, and Nihal Kour has a life interest in the estate of Hari Singh which is very large, consisting of shares in a great many villages, and considerable areas of Bir land. The Sardárni is a sister of Sardár Badan Singh of Maloud.

91. Besidetathe Maloud family, there are one or two others which hold smaller jágírs in the Ludhiáua tahsíl.

The Khosa family of Jats belong really to Baukandi in Ferozepur district. They hold three or four villages in shares with the

Maloud family. Their revenue is Rs. 3,353.

There are two families of Kalál Jágírdárs at Butáhri and Háns,
who hold the villages given them by the
Ahluwália Chief. Their income is Rs. 2,506.

The Bhaie of Bagrian has been already mentioned in the preceding paragraph. He has a jagir of four villages in this district with a revenue of Rs. 6,061, as an endowment of his Langar or Alms House (see paragraph 65).

Bhaie of Arnouli.

The Bhaie of Arnouli, who has a jagir in Amballa, holds one village (revenue Its. 1,800)

Of the Kákars who held the Ludhiána Bét at the end of the last century there is one representative, who resides in Báranhára and is in receipt of a pension; while an adoptive grandson of Sudha Singh, Gil, also gets an allowance and lives at Mángat.

92. The children of Maulvi Rajab Ali, the well-known Mir Jagráon tohsil: The family of Rajab Ali.

The family of Rajab Ali.

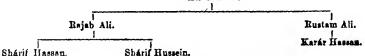
The family was Muhammed Zafar, a Sajad, who settled in the neighbourhood of Jagráon under the Emperor Mahomed Sháh, and got a grant of some villages round Talwaudi Kalán. His descendants lost their possessions when the Sikhs took the country from the Ráis. Rajab Ali subsequently recovered the jágír of two villages.

The pedigree is-

MOHAMAD ZAFAR,

Faqirulla. Sultan Mahomed.

Ali Bakbah.



None of the present generation have taken service. The tomb of Fagirulla still stands in Talwandi.

There are Sodhi families in Mallah, Bhamipur and elsewhere, holding petty jágírs which are gradually lapsing; and Jat families in Rájuánah and Tughal; but these do not deserve mentiou.

93. The Rais of Raikot played such an important part in the history of this district that I may give some of the details connected with the family. They belong to the "Manj" Got or subdivision of the Rajput tribe; and the ancestor of the Rais, Rana Mokal, is said to have come from Bhatanír (or Jesalmír), and to have settled in what is now Faridkot territory. Fourth in desceut from him was Tulsi Das, who become a Mahomedan in the

reign of the Emperor Ghiásuddin Ghori, the family chronicle says, that is about the middle of the 12th century (the same period as that to which the Ghorewah Rajputs of the east ascribe their arrival in the part of the country now held by them) and was called Shekh Cháchu. His sons, Bharu and Lapál, came to Hatur, a large village in the Jagraon tabsil, where they appear to have lived by plunder under the shade of an unfortunate Panwar Rajput, called Udho, the circumstance being recorded in the popular tradition 'Khaun pian Bharn Rái: Pakara jáua Ucho Panwar, which means that Bharn got the plunder, and Udho the blows. Finally Bharn made himself master of Hatur, while Lapál settled in the adjoining Sháhjehánpur, which his descendants still own. Seventh in descent from Bharn was Kalha I, who took service with a Delhi Emperor called Alanddin, perhaps the last of the Saiad dynasty, at all events in the beginning of the 15th century. Kalha founded Talwandi, to which place the family moved; and obtained an assignment of the malguzari of viilages in the neighbourhood, for which he had to pay Rs. 1,25,000 of revenue, and also the title of Rai. The family maintained its position as a feudatory of the empire ('zemindar' or "mustajir") under the Lodis and Mughals for several generations, and one of the Rais is said by the family chronicle to have been put to death for refusing a daughter in marriage to the Emperor Akhar. On the decline of the Mughal empire from the beginning of the 18th century the Rais became involved in disputes with the Governor of Sirhind; and Rái Kalha III, who appears to have been a ruler of very great ability, extended his power up to Ludhiana, which passed into his hands a few years before the capture of Sirhind in the manner described in paras. 25 After that event he established independent power over the whole of the Jagraon and the greater part of Ludhiana tahsils, and also a large portion of the Ferozepur district. The family was on at least equal terms with the Pathan Rulers of Maler Kotla and of the Phulkian Chiefs, with the latter of whom their relations were very friendly on the whole. It was in the time of Rai Ahmed, successor of Kalha II, that Raikot was built*; and many other towns and villages, amongst them Jagraon, owe their origin to the family, whose rule appears to have been very mild. Rai Kalha III was much the ablest of the Rais; and under him the family reached the height of its power. He was followed by his son Ahmed, who ruled only a short time. In 1779 A. D., Rái Aliás, a minor, succeeded, and the affairs of the State were managed by two Gujars, called Roshan and Ahmed, the latter whom asserted his independence at Jagraon, but was expelled. It was at this time that the Sikhs from across the Satlei commenced their attacks under the Bedis, and Roshan was killed in an The Bedis got temporary possession of engagement with them. Ludhiana, and some of the country about; but Patiala and other Cis-

^{*} The names Kalha and Ahmed occur several times in this family, and this has caused some confusion. It was a Rai Ahmed who founded Raikot, but this was long before the time of the great Rai Kalha, whom I have called Kalha II in para 24.

Satlei powers took up the cause of the Rais; and the Bedis were expelled. In 1802, Rái Aliás was accidentally killed while hunting near Jagráon, and there were left of the family only two women-Nur-ul-nisa, his mother, and Bhagbhari, his widow. In 1806 Ranjit Singh made his first expedition into this country; and without a struggle dispossessed the Ránis of all their possessions save two or three villages, which he allowed for their maintenance. On annexation of the country by us, this jagir was continued to Bhagbhari till her death in 1854, when it lapsed. The representatives of the family now left are Imain Bux, son of Bhagbhari's brother; and Ahmed Khan, another distant relation of the last Rái. The former of these Bhágbhari adopted, and he receives a pension of Rs. 200 per mensem for his life. Both have considerable possessions, Ahmed Kuán and his brother owning two whole villages, besides their share in the ancestral lands in Talwandi and Ráikot. The houses belonging to the family in Ráikot and Talwandi are in the hands of these gentlemen, but with Hatur they have now no connection.

94. Some mention should be made of the political refugees and Refugees in Ludhiána.

Refugees in Ludhiána.

pensioners, who followed us from Afghánistán in 1842, and had Ludhiána assigned to them as a place of residence.

The family and dependants of Shah Shuja have resided here since our withdrawal from Cabul in 1842. Shahzada Shahpur is the son of Shah Shuja, and was proclaimed Amir on his father's death, but he enjoyed the dignity for only a few days. Another of the family, Shahzada Nadir, is an Honorary Magistrate, and several of the rising generation are in our service as tahsildars, extra assistants, or in the army and police. The family altogether receive Rs. 1,815 per mensem in political pensions.

The family of Abdul Rahmán Khán, the Nawáb of Jhajar,

Jhajar Nawáb's family.

executed in 1857, was sent here after the
mutiny, and has since resided, drawing pensions which aggregate Rs. 2,300. There are three sons of Abdul
Rahmán and an uncle, Ali Muhomed, who appears to be the leading
man of the family.

Salch Mahomed Khán, who came with us from Cabul in 1842.

Other pensioners.

was in receipt of a pension of Rs. 1,000 per mensem, and his son has succeeded to half of it. Another Cabul pensioner of note was Mahomed Hassan Khán, who also distinguished himself in the mutiny. He had a pension of Rs. 800, and life family have now about Rs. 300 per mensem. The well-known Mohan Lál (Agha Sáhib), Hindu, Christian, and Mahomedan lived for many years here, and has left some descendants of various religious.

CHAPTER IV .- PRODUCTION AND DISTRIBUTION.

A -Agriculture

Area under the various crops and their distribution.

95. The following is an abstract of the area in acres and percentages under the various crops grown in the district.

KHARIF OR AUTUMN HARVEST PERCENT 44				RABI OR SPRING HARVEST PER CENT, 56			
Стор.	Irrigated.	Unirrigated.	Total.	Crop.	Irrigated.	Unirrigated.	Total.
Bugarcane	9,322	3,942	13,261	Wheat	55,429 7	69,313	124,742 10
Maire	36,523	14,448	50,969 7	Barley	9,818	14,542	24,360
Cotton	13,829 £	4,691	18,520	Gra.a	1,098	29,896	80,994
Pulees ("Moth," &c.)	1,429	90,284 18	92,408	Wheat with gram	4,712	166,782 22	171,494 £\$
Fodder ("Charri,"	6,140 1	102.210	107,350	Barley with gram	1,456	52,23 0	53,692 7
"Charri" with "Moth," &c	702	30,025	30.727	Others	9 779	13,797	23,579
Bice	41	2,492	2,533	Total	82,292	340,506	428,858 56
Others	3,649 1	11,792	15,441 2				
Total	70,628 10	260,582 34	331,210 44				

Sugarcane, maize, cotton and wheat are in the uplands only raised in land artificially irrigated, the unirrigated entries for these crops being for the Bet. The distribution of the various crops over the district is as follows: Sugarcane is grown in the first twelve or fifteen miles of the Bet, and in the uplands of Samrala tabsil, and of Ludhiana except in the Jangal villages and in the country about Pakhowal; but the proportion is higher in Samréla, and gradually decreases as we go westwards. There is also very little of it in the sandy tract along the high bank; and none is grown in Jagaion. Cotton is generally grown where cane is, and also further west; but very little in the Jagraon The other crops are grown everywhere, except that in the uplands maize and wheat require irrigation, and there is none in the Jangal villages. The autumn unirrigated crops, pulses and fodder are the same throughout the district; but in the Jangal villages "bájra" sometimes takes the place of "joár," because, I suppose, it is more hardy. So too wheat mixed with gram is the unirrigated rabi crop in the eastern parts where the rainfall is heavier; while in the more arid tracts of Jagraon, and the outlying villages barley takes the place of wheat. Thus in the east of the district, where the percentage of irrigation from wells is highest, we have a larger proportion of the superior crops, cane, maize, cotton and wheat; while in the western part (Jagraon tabsil) there is not much irrigation, and the greater part of the area is under kharif and rabi rain crops,

An account has already been given (para, 16) of the annual and monthly rainfall. The agricultural The seasons: Agriculyear begins with the "Nimania," which is the tural year, first of the half monthly fasts of the Hindus, and falls about the 15th June. Lands are rented and accounts cleared up by this date, and generally a new start made for the year. Most of the hand has been enjoying a rest of two or three months, the exceptions being where sugarcane, some of the cotton, and patches of tobacco and vegetables round the wells occupy portions of it. The mousoon breaks from ten to twenty days after the Nimania, towards the end of the mouth of Hár; and agricultural operations commence at once with the sowing of the various autumn crops, except the cane and cotton which are already in the ground. Falls of rain at intervals during the months of July-September bring the autumn harvest to maturity; and in September the final ploughings for sowing the rabi crops (the land has been carefully prepared before) commence. From the middle of September to the end of October the rabi sowings go on. and from the end of October to the middle of November the kharif grain crops are reaped, and the cotton pickings begun. period of two months (15th September to 15th November) is much the busiest time for the cultivator. If the rainfall has been good, the rabi sowings are completed early in November; but, if the rains have ceased too early, and there is not a sufficient amount of moisture for the sowings, they go on into December, and a late shower in

October or November is then of the greatest use. The benefits of a fall at this time are celebrated in the popular couplet:

Je mính pía Diwálí, Jia phus, jis háli.

"With rain at the Diwáli (end of October) a worthless fellow and a good cultivator are on equal terms." The rabi crops are brought on by showers at two periods of the coid weather, about Christmas and towards the end of February; and reaping begins from the Baisákhi day (1st Baisákh, about April 15th), and the threshing is completed early in May. The sugarcane crop will not fit into the regular round of the farmer's year, and requires a special course of its own. It is sown in March, is cut and pressed after the middle of November, when the other kharif harvesting and the rabi sowing have been finished. Cotton is sown before the regular kharif seed time, but it fits into the harvesting season, being picked at intervals during November-December.

There are a number of soils recognized by the people, Our Regular and with appropriate names. Soils: natural and arti-Settlement introduced an elaborate classification, ficial, but the names used were known in the country before this. The land round a village site is referred to as "niai" because of its situation even in the Jangal villages, where there is no irrigation, and no soil so designated in the Government papers. "Dakhar" applied to hard soils is a term that has been in use from time immemorial in the district. In the uplands the Jat will divide his land into "senju" (irrigated) and "maru" (unirrigated). latter he will, in speaking to a revenue officer, describe as "tibba" or "rct," and sometimes as "budhi" if there is any appearance of sand to justify him; or, if the soil is a good even loam, he will tell you it is "pilak," which is a very coarse cakey soil, almost barren, and worse even than saud. If it is a good dark stiff soil he will tell you it is "rarra," "chilan" or "kaliar." In a village with light soils the people will speak with apparent envy of the "dákhar" or elay loam of some other village, where the crops are so good, while the owners of this latter sort of soil sigh for the light lands (called "resli") of their neighbours, which require little ploughing, and where the crops spring in the driest of years. In the Bet the people speak of "mand" or flooded land; "rakar or "kallar," hard land yielding little; "passi," or soil in which the sand is very near the surface.

In the Regular Settlement the terms used were "niái" or land adClassification adopted in former and present Settlements.

or hard clay soil; "ronsli" or ordinary loam; and "bhur" or sand. These when distributed over the irrigated and unirrigated lands gave much too elaborate a classification. Thus in the Dháia there were these classes of irrigated lands: "Níai cháhi," "dákhar cháhi," "rousli cháhi," "bhur cháhi,"

and finally "mohita chálii," or unirrigated land capable of being watered by a well. We have simplified the classic fiation as far as we could, and have divided all lands for assessment purposes into-For the Dháia: (1) "niai cháhi" or first class irrigated land adjoining the site; (2) other well lands; (3) unirrigated "dákhar" or "rousli," i.e. loam; and (+) "blur" or sand. The first of these is an artificial class, but the division of unirrigated lands is a broad distinction, which the people themselves recognize. In the Bet no natural classification was attempted; but the lands were recorded as (1) manured and ordinarily bearing two crops ("dofasli"); and (2) unmanned, bearing one crop ("ekfasli"). These divisions are quite enough for practical purposes, and I do not think that anything would have been gained by attempting a more elaborate classification. In the uplands I began by having three classes of unirrigated lands: clay loam (dákhar), sandy loam (ronsli) and sand (bhur); but further experience induced me to combine the first two. In the Bct there is great uniformity of soil. The only variations are when the land is newly formed ("mand,") where it lies low and is moist, or where the sand is near the surface ("passi.")

In the uplands I have already pointed out that the lighter soils prevail along the high bank and to the south-rious soils.

Comparison of the value of the district, while those of the eastern portions are much stiffer. Putting irrigation

aside, the best soil is that which best suits the rainfall. A bard "dakhar" soil requires a great deal of rain, which it generally gets for the kharif harvest; but even this crop suffers from breaks in the raius. But the most critical period of the whole year is the time of the rabi sowing. It is well known that a clay soil is capable of absorbing a much greater amount of moisture than a sandy one; but the former requires a very heavy rainfall to saturate it thoroughly, and dries much more easily, which is a very important point in this climate. Dákhar land requires to be thoroughly moist before ploughing is possible at all; and even if it has been reduced to a good tiltin, but the rains have stopped too early, it will often be found to have lost all its moisture; and the cultivator knows he may spare his seed, for it will not germinate. If the moisture for sowings is good, and if the usual winter rains do not hold off and are also sufficient, the produce of dákhar will be much heavier than that of any other soil; but it is seldom that all these contingencies turn out as the cultivator would wish them to. On the other hand rousli or sandy loam is very safe for the rain crops. It requires little plongling; and, though not capable of holding so much as dakhar, retains moisture in the subsoil much better. For weeks after rousli land has been ploughed and rolled preparatory to sowing, it will be found that there is good moisture at a few inches from the surface. I think then that the best soil of the district for rain cultivation is the rousli, for it is never without a crop; while, even in the Samrála villages with a higher rainfall than elsewhere, we find that every fourth or fifth year a great part of the

unirrigated land has no crop, because sowing was impossible for want of moisture. Many villages have both light and stiff soils in their area; and this is the most desirable combination. "Bhur" I have called sand, but it is really a shifting and sandy soil on a good subsoil. "Bhur" lauds are poor, and the crops on them are in the most favourable years rather weak, but they have the advantages of needing almost no tillage and retaining what moisture they got most tenaciously in the subsoil. They suffer, however, in a year of heavy rainfall, and in the villages along the high bank the crop is generally best when that of the lands further inland is drying, or when no sowings have been possible.

In the Bet "reh" or the saline efforescence, due to impeded underground drainage, is, as I have explained in Bad soils. paragraph 7, common along the Budha Nala, but not elsewhere, except to the west of Ludhiana.

In the neighbourhood of Nurpur barren patches will be found in the wheat fields; while further west, in the villages surrounding the plain of Aliwal, the surface is encrusted with it, the land being apparently water-logged, as is proved by the large area under water which has oozed out of the ground just below the high bank under Bharowal. Elsewhere, in the Bet and in the harder soils of the Dháia, the land may show a tendency to saltness, especially in drainage lines, this being evident from the failure of the crop to germinate; auch soils are called "chilan" or "kallar." "Pilak" is a soil of a deep yellow colour, more or less unfruitful, and distinguishable by its tendency to cake. It appears to be composed of a large grained coarse sand, like gravel; and is the worst of all Dhaia soils.

Artificial irrigation.

The lowlands or Bet.

98. Of the total cultivation of the district 15 per cent. is returned as irrigated. The irrigation is at the present time entirely from wells. Bét the depth of the water below the surface is only eight to ten feet, and the lift very easy.

The wells here are of two sorts, first "kacha" or temporary wells with a lining made of "pilchi" (see para, 12), the water being raised in an earthen pot suspended from the end of a lever or pole, the other end of which is heavily weighted. The pot is pulled down into the well by a string attached to that end of the pole; and the weight at the other end raises it when full to the surface, where it is emptied into the irrigating channel. This apparatus is called a "dhinkali," and has the advantage of only requiring one man to work it. There are also packa* wells of small diameter, worked like the other wells of the district with a bucket raised by bullocks. At the Regular Settlement there appear to have been very few packa wells, and people were content with the simpler "dhinkali;" but within the last 25 years nearly one thousand packa wells have been sunk, mostly in the villages just below Ludhiana city and to the west, for irrigation is not required in Bet lands further east. The "dhinkali" is capable

^{*} i.e., lined with masonry.

of watering only about an acre of land; and, although the Araien cultivator can grow a great deal in this small area, he can do much more with cattle and a permanent well capable of watering six to seven acres; and the change is a decided advance. The Persian wheel is used in one or two villages in the Jagraon Bét, adjoining Ferozepur.

In the Duáia the wells are all of masonry. The water is raised by means of a rope and leather bucket (láo, Wells in the uplands. charsa), worked by two pairs of bullocks alternately going down an inclined plane or run. The rope works over a wheel or pulley, raised a little above the well on a forked stick. To one end of the rope is attached the bucket, and the other is fixed to the yoke of the bullocks, which are driven down the run. When the bucket rises to the top, it is rested on the edge of a reservoir and emptied into it by a man standing there for the purpose, when the rope is unfastened from the yoke and the bucket allowed to descend into the well. Three or four men and two pair of bullocks are required for one bucket, and can work for three or four hours at a stretch. the continuous working of a single backet well four pairs of bullocks and six or eight men are necessary. With this complement it will go on for the whole day. Nearly half of the wells in the district have two buckets and two sets of gear completely separate, so that both are worked at the same time. These are much wider than the single bucket wells, being 11 or 12 feet in diameter, (while the latter are generally 7 or 8), and cost more to construct. The usual cost is from Rs. 250 to Rs. 300 for a single, and from Rs. 400 to 500 for a double well. The compensation paid for wells destroyed by the Sirhind canal in 1869 averaged between 400 and 500. Irrigation is also given in places (Bét and Dháia) from village tanks, the water being raised three or four feet to the level of the fields by means of a basket worked by two men with ropes; but this is only possible at certain times of the year when the tanks are full. The water is first run into a small well or reservoir (called "chuhi"), and thence raised by a basket (called "dai") into the irrigation channel. The basket is fined with leather, and has two ropes attached to it, one passing under each side and coming out at the corners. Two men stand on opposite sides of the well holding the two ends of each rope, and raise the water in the basket.

Spring level; variations in depth of the wells.

Spring level; variations in depth of the wells.

water in the wells has been recorded by us for every village in the district. The result of this record is to show that beyond the influence of the river, which affects the water level to some distance from the high bank, the depth below the surface of the water in the wells diminishes as one goes from north-east to south-west in Samrála and the continuous part of the Ludhiána tahsíl. This variation is most marked in Samrála, where it is from 42 or 43 feet in the villages to the south of Bahlolpur, to 30 feet at Isru, and 27 feet in the detached villages to the south-west of this, and also about Maloud (Ludhiána

tahsil.) In Ludhiana the variation is not so great, the recorded depth being not less than 35 feet in any of the villages about Pakhowal; while beyond our boundary the depth increases, till we reach 75 feet at Sahua, and upwards of 100 beyond it. In Jagraon there is no such fall of spring level; but the depth to the water is much the same in all the eastern villages of that tahsil, while it increases towards tese south-west, being upwards of 50 feet at "Hatur" in the south-west corner. Thus we have a spring level which approaches the surface in the eastern portion of the district to a distance of some 40 or 50 miles in the same direction as the slope of the country, and then gets deeper, till in some of the Jangal villages water for drinking purposes is raised with very great labour; while in the western portion of the district with the same slope there is a steady fall from the first.

The depth of water in the supply of water in the locality and season. It is generally twelve or fifteen feet, but in a dry year will fall much lower. It is said that during the last few years the level has been high. The amount of water which can be drawn out of a well depends on the source from which it is fed. The supply from beneath the lower clay is inexhaustible; but most wells are filled from the saud, and are liable to be worked dry, especially where the rainfall has been deficient.

I will next give an account of the method of sinking a well-An excavation of the size designed for the well Method of constructing a is first made through the upper stratum of clay soil till the sand is reached, generally at a depth of fifteen to twenty feet; and at the bottom of this is laid down the "chak" or cylindrical framework of wood on which the masonry lining of the well is to be rested. This living is built up to the surface, and above it to a height of eight or ten feet, and weighted down while the sand at the bottom is scooped out. The structure gradually sinks through the sand, the "chak" keeping it firm. Three sorts of sand are met with in the excavation; first, fine dry sand (called "reti"), and then moist, coarser sand ("reta"), and finally sand which comes out in lumps mixed with pieces of clay and kankar (called "ghatii"; and it is from this last that the water is generally drawn. The sinker says that a good foundation has been reached ("pathan lag gaya"). The top of the well is then finished, and the reservoirs and other appliances built. In some villages the lower stratum of clay is reached (called "pandu"), and this gives a sure foundation for the well. A hole about a foot in diameter is driven through the clay into the saud below it by means of a pointed iron instrument; and the water rises ("ubal") as in a spring. It is a great piece of luck to have a well founded on the "paudu," for it can never fall in, and the supply of water is unlimited. Such a well is generally worked with three or four The "pandu" is said to be reached in most wells sunk in villages about Maloud, and occasionally elsewhere. A well not founded on the "pandu," hesides having a supply of water that is liable to be exhausted, may suddenly disappear altogether, or gradually subside, the foundation being undermined by the action of the bucket.

- Wells are worked with one, two, three and even four buckets; and we cannot judge of the irrigating power Irrigating power of a well. by merely striking an average of the area for each well. It is usually calculated that a two-bucket well can irrigate half as much again as a single well; and at this rate we have the average area watered by one of the latter sort 12 acres, and by one of the former 18 (in the Dhaia). I extract the following from my Assessment Report of Samrala tahsil :- "But to form an idea of the irrigating power of a well, we must examine the area under the various crops and the seasons during which they are irrigated. Roughly speaking, the rabi crop is irrigated for six months (October to March), and the sugarcane crop for ten months (May to February). The other kharif crops, cotton and maize, require irrigation for nearly four months (July to October). The number of waterings given varies with the character of the season; but generally the rabi crop requires one every twenty days, and the cane once a week. Taking the rabi crop then, we have 28,000 acres watered once in three weeks, or 9,300 once a week, and 6,200 of sugarcane. This gives about five acres watered every week by a one-bucket well. In the kharif the area is naturally a good deal less. The estimate given me by zemindars is one bigah (packa) or five-eighths acre a day for each bucket." The average area watered by a masoury well in the Bet is nearly seven acres, which bears about 12 acres of crop in the year.
- 102. It is expected that irrigation from the Sirhind canal will be sirhind canal.

 Sirhind Canal.

 commenced from the rabi of 1883-84 in the villages to the south-west of the dsitrict; and in a few years it is likely to be extended to all villages in the uplands lying west of the Maler Kotla road. The distributaries are at present under construction.
- 1 will next give some account of the ordinary agricultural implements of the district. The plough "hal" Agricultural implements universally used is the "mona," (see "Panjab and appliances. Manufactures," page 314), which is, I think, decidedly the best of the two patterns in use in the province, being much stronger than the other. It is of course a primitive implement with no mould board and no turning action; but it opens the soil to a depth of eight or ten inches, and produces a fine tilth. The various parts of it are called "mona" (the block), "thaili' or "arli" (the handle), "phála" and "cháo" (share and coulter), "halas" (beam). The bullocks are yoked by a "paujáli," or frame work passing over their heads into which the "halas" is fixed. To the plough is attached when necessary, a "por" or tube made of bamboo hollowed with a leather mouth, through which the seed is drilled. Ploughing is followed by rolling with a "Sahaga," a beam of wood to which the

cattle are yoked, the man standing on it and driving. The sahágá is also used in stiff soils for clod crushing. "Paraien" is the goad for driving the bullocks. "Jindra" is a rake without teeth, worked by two men, from one side with a handle, from the other with a roue. It is with this that the irrigated lands are ridged off into "kiaris" or plots for irrigation. The "kahi" or mattock is mostly used in making the irrigation channels (adh). The hoeing is done with a "ramba" or "kurpa," a trowel with a crooked handle. The crop is reaped with a "datri" or sickle, and threshed with a contrivance called phalla. and winnowed by being thrown into the air with a pitchfork ("salang") or from a hasket called "taugali." The other chief implements are the "salang," a wooden fork with two prongs used as above, and also for making up hedges, &c. ; the "kará," an iron rake or entter, used in place of the jindra, and worked with bullocks in very stiff soils for levelling, &c.; the "kohári" or common axe for cutting wood; "gundása," an axe or chopper with a long handle, the blade being a thin piece of iron about an inch wide and six inches long fastened to the end by two spikes of iron; a "gandasi" the same with a short handle for chopping folder; a "gandála" or stick tipped with iron for making holes into which the branches set up in the hedges are set. The principal parts of the well gear are the "charsa" or bucket; the "lao" or rope with which it is raised; the "paoni" and "kohir," wheel on which the rope works and fork in which it fits. Water is raised from tanks, &c., by a backet lined with leather worked by two men with ropes (called "dal"). The sugarcane press is called a "belne" or "kulhari," and a description of it will be found under ! sugarcane. " A detailed list of all implements and appliances is given as an appendix to this report. Small carts are used by most cultivators for bringing the harvest from the field, carrying manure, &c. They are of the ordinary pattern of country cart; but do not go beyond the village.

General sketch of the agriculture of the district.

Mahomedans too, are able to show an agriculture that will bear comparison with that of most countries. The operations of agriculture differ in the various portions of the district according to the crops grown, and the presence or absence of irrigation.

In the uplands the wells generally lie round the village site in a ring, the unirrigated lands being outside of this.

In some of the small villages of the Kheri iláqa (Samrála) the whole area is practically irrigated, and in most villages of this tahsil upwards of 40 per cent. is regularly watered. As we go westwards the proportion gradually decreases to about 10 per cent. in Jagráon tahsil, while the outlying villages to the south have none at all. The irrigated cultivation is best studied in Samrála where it is in greatest proportion, and here it

^{*} Appendix XIII.

varies in quality from that in the rich "niái" land adjoining the site on which is deposited all the natural filth of the village besides what it receives from the manure heaps, to the land attached to distant wells, to which manure is with difficulty conveyed and grudgingly given. The niai circle comes so close to the site as just to leave room for a road. It may be said to be always under crop, and regularly bears two harvests in the year. In January or February, while the rabi crops are growing, the fields selected for sugarcane are manured, watered and then ploughed till the soil is reduced to a fine tilth to the depth of eight or ten inches. The cane is then planted (March-April) and watered at intervals. Then the fields for cotton are treated in the same way, and most of the crop sown before the rains in April-June. When the rains begin it is time to sow the maize, and this is done from the middle to end of July, in land prepared in the same way as for the other two crops. The maize fields are those nearest to the village and the richest, what the people specially denote as "niai," or land adjoining the site. The tilth produced by the preparation for these crops is very fine, being the result of successive ploughings and rollings. When the seed has been put down the field is banked off into small divisions (kiaris) with a rake (jindra) for the purposes of irrigation, each of these being flushed with water in succession. This closes the kharif sowings in irrigated land. After the first one or two waterings the fields are in the case of all three crops carefully hoed, the cultivators working through them steadily in a line, removing grass and weeds and loosening the earth, which is ant to cake from the watering and stop the growth of the plant. The amount of irrigation which these crops receive depends on the character of the rains. The cane has to be kept alive through the hottest part of the year, but luckily it is the only crop to be attended to then. After the rains have commenced the well has to be turned on wherever there is a break, and the necessity is more constant towards the end of the hot weather. It is when these crops have grown to their full height that the Samrala and eastern Ludhiana villages look their best, and the site is surrounded to the distance of 200 or 300 yards by a magnificent growth of maize and cane, eight or ten feet high. The maize is ripe by the end of October, and is reaped in the beginning of November. The sugarcane is generally ready for cutting about the beginning of December, and the cutting and pressing go on into March. The rabi sowings of wheat and barley in irrigated lands are made in the beginning of November either in fields uear the site, which have just borne a crop of maize, or on more distant ones which have been lying fallow ("sanwe") during the kharif. If there is not sufficient natural moisture, a watering is given from the well, and this is generally necessary. Several ploughings in succession produce, as in the kharif, a fine tilth, and the seed is sown broadcast, ploughed in, and the land rolled and banked for irrigation. The crop gets one watering a few days after sowing, and others at intervals till within a short time of its ripeniug, the number of waterings depending on the amount of rain. The rabi is off the ground by the end of April, and is followed by small patches of tobacco, onions, &c., which grow in April-June; but most of the land not under sugarcane is left alone for two mouths till the rain falls. When land bears two crops in the year, (or the equivalent one of cane) we have called it "dofasli harsálá," i.e., bearing two crops every year. Where a fallow is usually given, the system is "ekfasli harsálá," i.e. only one crop in the year is grown. This description of irrigated cultivation will apply to villages in the Jagráon tahsíl if we cut out the sugarcane and cotton. The maize gets all the attention and the supply of manure distributed in Samrála between the three crops, being the only kharif at the wells. It occupies ten out of a total of sixteen thousand acres of irrigation in this tahsíl.

In the Dhaia unirrigated lands there is a very well established system of cultivation. To explain it, we Unirrigated Dháis cultivamust begin with land from which a kharif tion. The two years course. crop has just been taken. When the rain falls in Magh (January-February) the field is ploughed and left open to the action of the elements. If the cultivator has time he may plough it again whenever there is a fall of rain, but it is not often that he can do this. When the autumn rains fall ploughings again commence in July, and the land gets a number of them in succession, and is prepared for the rabi sowings, having had a year's fallow, and being reduced to a very fine tilth by the final ploughings in September. Sowings ordinarily commence from the middle of September, the gram being the earliest crop in the ground, and being followed by wheat and gram (mixed), wheat, barley, in this order; and they go on in ordinary years till the beginning of November, and till much later if the rainfall is bad. The fields are weeded at intervals, "piáji," thistles, &c., being carefully removed. The crop ripens in April, and harvesting begins about the Baisakhi day (10th-15th April), a little being done before that. When the monsoou rains begin the land out of which this rabi crop has been taken is ploughed once, and the kharif pulses and millets sown in it without further preparation, as none is really necessary. The kharif ripens at the end of October. The course of cultivation sketched above extends over two years, in the first of which the land bears no crop, although really the rabi of one year is followed by the kharif of the next; but of course the whole of a cultivator's land does not go through the various stages at the same time. Part of it will be under crop at the time that the rest is enjoying a fallow. I have noticed in para. 85 the manner in which the lands of a village are generally distributed amongst the community, each sharer having a portion in each of the blocks into which the lands are divided, and his fields being scattered all over the area of the village or subdivision. is obviously convenient for the people of adjoining fields to have their land under crop or fallow at the same time, and in fact the members of the community always pull together in this matter, with the result that the village arer will be found mapped out into blocks of fields

which are either cropped or fallow at the same time. In small villages there may be only two such blocks, but there are usually a good many. Besides the advantage of the system as best suited for the land, it has others incidental to it, such as the convenience of being able to graze the cattle over a large piece of fallow, and the facilities for watching the crops.

I have spoken of this system of cultivation, (which we have named Other systems.

"dofasli dosála," or the two years course, the land yielding two crops in two years) as extending over the Dháin; but in the light soils immediately over the ridge or high bank (our Lower Dháia Assessment Circles) the area under the rabi is much larger than that under the kharif, because for various reasons the former is found to pay better; and a large proportion of the land is under rabi every year (ekfasli harsálá).

In the eastern portion of the Bet there is no irrigation. but the soil is naturally moist, and the cul-Cultivation in the Bot: tivation of manured is of the same nature as manured. that of irrigated land in the Dhaia, cane, coston and wheat being the crops. The "niái" area generally lies round the site, but not as a matter of course, for there are no wells to make it necessary that the superior crops should be raised in a fixed area, and we accordingly find that it is very often shifted. fact two crops of sugarcane can be grown in any land that gets sufficient mannre, though it is generally convenient to have these crops near to the village. Except for the waterings, the description of the irrigated cultivation of the Dhaia will apply to the manured lands of the Bet. In the western half of the Bet there is a great deal of irrigation. and the superior cultivation is all at the wells. Maize followed by wheat is grown as in the uplands, and there is also some very fine market garden cultivation, especially under the city of Ludhiana from which an ample supply of manure is drawn.

In the Bet the "dofasli dosala" system of cultivation is followed for unmanured lands in villages at a Unmanured. distance from the river; but even here the area under wheat is larger than that of the kharif. In this case all the land in turn is generally put through the two years course. Thus a field will bear a rabi for turee or four years in succession, and then this will be followed by a kharif, to which will succeed a year's fallow. In the moister lands near to the river a rabi is grown year after year. uumanured kharif crop is, I may mention, nowhere of much importance in the Bet. The newly recovered lands in the "Mand" are ploughed up roughly the first year; and "massar" or some other poor crop sown, often without removal of the "pilchi" and reeds. year the land receives better tillage and is cleared, the crop being a mixture of massar with wheat or barley; and in the third or fourth year wheat alone is grown, the soil having become quite clean. rabi in these new moist lands is often preceded by a kharif of rice. mash, maize, &c. As a whole the agriculture of the Bet is much inferior to that of the Dhaia. There are no light soils like the roush of the uplands, and the land requires much greater labour, and is naturally foul with weeds. Besides this the Mahomedan proprietors, except the Araiens and Awans, are generally rather poor cultivators. The fields immediately round the site, or at the wells where there is irrigation, are kept clear enough; but in the outlying ones the crop will generally be found choked with weeds, the result of insufficient ploughing and failure to attempt keeping them down:

107. In irrigated lands preparation of the land for a crop by ploughing can begin at any time. The field Particular operations: is flooded and allowed to dry partially, and Ploughing. then ploughed five or six times in succession. This is always the method of preparation for maize and wheat; but for cane the land is fallow (sanwe) during the cold weather; and it is often ploughed like unirrigated lands with the aid of the winter rains. For cane it is said that eight or templonghings are necessary, and as many as 15 or 20 may be given. Maize generally gets five or six, and wheat four or five in irrigated land. Where the two years course is followed in unirrigated lands there are three recognized seasons for ploughing. When the rain falls in Magli (January-February) the field from which a crop has been taken in October is ploughed twice in opposite directions, and left open to the action of the elements. If subsequent showers fall the cultivator may plough it again; but he has seldom time to do this, at all events where sugareane is grown. The next ploughings commence when the rain falls in Sawan (June-July); and the land then gets three or four at intervals, being reduced to a good tilth, and then smoothed with a "Sahaga" to keep the moisture in. In Bhadon, when the time for sowing approaches, one or two more ploughings are given according to the nature of the soil. The cold weather ploughing is well recognized by the people as the most important operation of all. The great increase in the fertility of the soil produced by its exposure to the air is easily explained on chemical grounds; and I would refer to the experiments recently made in the N. W. P., which, if they did nothing else, proved that the cultivator knows more about his own work than he generally gets the credit The following popular couplet describes the value of the ploughings at the various seasons "Sial Sona; Har Rupa; Sawan sawen rawen. Bhadon ba baguchia: Tain kinn bahi thi Inchia," i.e., "ploughing in the winter is gold: in Har, silver: in Sawan, indifferent; in Bhadon it is repentance,; what is the use of your going about it, you lazy rescal?" Where, as in parts of the Bet, the two years course is not followed, winter ploughings are not possible. the kharif only a couple of ploughings are given in the rabi stubble, the seed being sown with the second. Ploughing is always comm need in unirrigated lands a few days after the rain has stopped, when the land is beginning to dry this condition being called "vatar."

Three bullocks are usually taken out to the fields for the work, one always being at rest. The plough does not generally go very deep in the winter ploughing, six or seven inches; but in those of the rainy season the tilth produced is not less than eight or ten inches, the plough going deeper each time.

108. Sowing of the ordinary grains is done either broadcast ("chatta,") or by drilling through a tube ("tor") Other operations : sowing. into the furrows. The latter method is almost invariably employed in unirrigated lands where it is desirable to get the seed well under the surface in contact with the moisture: but there is no fixed rule in the matter. In irrigated lands and in the "Mand". Bet the sowing is broadcast. The people will tell one that. in former times when there was plenty of rain this was the case everywhere. The kharif crop is sown broadcast more often than the rabi. After sowing the furrows are generally left open, always:so in the western parts; but in Samrala tahail the field is sometimes smoothed; maize and cotton are enwn grain by grain by hand. Muize, it is said, should be so widely sown as to enable a man to run between the stalks. The method of planting cane is described elsewhere.

Hoeing ("godi, gudua") is done with a "ramba" or trowel, the worker going through the field in a sitting posture, carefully cutting out grass and weeds and loosening the earth round each plant.

The lands round the village site are always carefully hedged in the Dhain with kikar or ber branches fixed Hedging. into the ground, and tied together with a rope of cane stalks which have been passed through the press ("thathe.") These hedges are strong, and keep out the cattle very well. They extend along the sides of the various roads leading to the site, and enclose the whole of the irrigated fields. At certain points there are openings with stiles to enable the cultivators to get to their fields. The people are more careful than in any other district that I know about keeping animals out of their fields. Each plot or collection of fields of sugarcane has a strong hedge of its own. The unirrigated lands are generally quite open, except in the Jangal villages, where the traffic is often kept to the roads by thick hedges of the prickly "mallah" or wild "ber." In the Bet there is not much hedging of any sort; but the nisi lands are more or less protected according to the disposition of the people.

Cutting is done with a sickle (datri). The cutter goes through the field in a sitting posture, laying down threshing.

Cutting, stacking and the handfuls as they are cut. These are lerwards tied into sheaves. Maize and jour are collected in a stack ("mohára") in the field, the stalks standing

upright. After a few days, as the cultivator has time, the heads are pricked off the maize, husked and collected in a heap, where they are beaten with a straight stick till the grain leaves the cob or head. The stalks are stored for fodder on the house tops or elsewhere. the case of the other grains the sheaves are collected in the field, the stack being called "lahan," and thence taken to the "khalwarah" or threshing floor at the village, generally on a cart. The place selected for threshing is the hard, beaten ground, such as is found in the "goersh" of most villages. This is swept clean, and the crop is spread out on it in the form of a circle to the height of two or three feet, and the phala or thresher drawn round and round it by two bullocks driven by a mun, or boy sitting on it. By the action of the phala and the trampling of the bullocks the straw is broken up fine, and the grain separated from the heads and husk. The phala is a square frame made of four sticks, each about three feet in length, and joined at the corners. The inside is filled with kikar or her branches, covered with one or two sheaves of corn, on the top of which the driver sits. For winnowing a breeze is required. The mixed grain and straw is first tossed into the air with a pitchfork ("salang"); and the grain separated from the straw. But with the grain a good deal of straw and chaff is still left; and to get rid of this the grain is taken up in a winnowing basket called a "chaj," and allowed to fall gradually from above the thresher's head, the wind blowing the remaining straw and chaff away from the grain. Of all the operations described in this paragraph this last is the only one which the cultivator does not invariably do for himself. The ordinary cultivating proprietor employs no field His women bind the sheaves, and he does everything else himself; but it is the custom in places for the chamár or chuhra to work the "chaj." There is none of the waste on reapers' wages and other allowances, such as prevail in many districts. Even the village menials receive but a scanty share of the harvest.

It will be seen that in the Dhaia unirrigated lands there 109. is an established rotation, the rabi crops, which Rotations. obtain most of their nourishment from the soil, being followed by the broad-leaved kharif crops, which draw less on the soil and more on the atmosphere; and the two crops being succeeded by a year's fallow. In the Bet and other places, where this course is not followed, there cannot be said to be anything resembling a rotation, for there is only one crop to be grown. In irrigated lands there is very little approach to what could be called a regular course. for the crops here too are limited. Still the people very seldom grow their sugarcane in the same field year after year; but prefer, if possible, to have it following cotton. Some fields have undoubtedly been producing maize followed by wheat or barley, for centuries one may say, but the area so treated is limited to the fields touching the site. An ordinary manured field will generally go through such a course as this :--

in a lump, generally round a well. The village is made up of a number of holdings owned by separate members of the community; and each owner has in his holding a share in every class of laud situated in all parts of the village or subdivision. I have described the operations separately; but every proprietor has to distribute his time and labour over the various crops, which are of every description, growing Thus in Samrála uplands a proprietary holding consists of about six acres of land, of which 31 (roughly) will be unirrigated, and 2½ irrigated. Of the former again half will be under fodder for the cattle and half under the common food grains; while of the irrigated land less than one acre will be under cane and cotton, and the rest under maize and wheat. But it is not possible for a single man to work a holding ("láhna" or "katána"), as he could never alone take his own turn at the well, which requires at least four bullocks and three or four men at a time. In practice 20 or 30 acres are cultivated by a partnership, which may be temporary, the land of the several proprietors being separately owned; or the holding may be really a joint one, belonging to a family containing five or six able bodied men. This gives the result of large patches of caue, maize, &c., being grown, several fields being clubbed together for each crop. In the Jangal villages, where agriculture is in its simplest stage, things are different. The division of the cultivator's labour is easy enough, and the task of cultivation is very light. From July to November the cultivator is more or less busy between sowing and reaping the kharif, and preparing the laud for and sowing the rabi. But with the rabi in the ground there remains almost nothing to be done till it is reaped; and after that absolutely nothing for some months. In Jagráon, where there is not much irrigation, the labour is also light. But in the highly cultivated villages of the east of Ludhiana and in Samrala the work of cultivating a holding is incessant, and wearying alike to man and to beast. There is no rest all the twelve months, except for a few days in the rains; and there is so much to do about the months of October-December that the cultivator often finds that he cannot get through it all; and loses his chance of sowing his rabi in time, or neglects some other operation.

Particular crops. in detail. Sugarcane is grown in an area of 13,213 acres; but its importance is much greater than is indicated by this, for the value of the yield is about teu times that of an ordinary unirrigated crop; and the total annual value some Rs. 12,00,000. It is almost entirely grown for the mannfacture of some saccharine product (called "kátha" cane); but in a few villages the "ponda" or eating variety is raised. Kátha cane is grown in unirrigated land of the Samrála Bét (where it occupies 12 per cent. of the whole area), and of a few Ludhiána villages; and at the wells in the uplands of Samrála and the eastern portion of Ludhiána, the best crop being, perhaps, that raised about

Maloud. It is of three sorts-" chan," a soft, juicy cane which grows to a considerable height, has a red colour and long joints ("pori"); "dhaulu" does not grow so high, has small joints, and is of a green colour and less juicy; while "ghorru" is an inferior sort, with many joints and a great deal of leaf at the top, very hard, and vielding much less juice than the others. The first of these is the real cane, and the other two are mere degenerations; no one ever keeps a "ghorru" stalk for seed; and "dhanlu" is only planted if there is not enough of "chan," The cultivation in the "Dhaia" and Bet is much of the same description. Cane is sometimes the only crop in a field for two years, especially in outlying ones, where the supply of manure is limited. It may also he grown with the aid of a great deal of manure in land just cleared of another crop of cane, or of a rabi crop of wheat; but as a rule it occupies the land for three harvests, following a kharif of cottan. Cane is not grown in the fields next to the site, but generally at a little distance. It is always plan tell, if possible, in land that has been eropped with cotton; and in the Upper Dhaia Circle of Samrala, we find that the area under the two crops is nearly the same. The rotation is generally -

YEAR.		Rabi.	KHARIF.	
First	••	Ploughing	Cotton.	
Second	•••	Fodder, &c.	Ploughing,	
Third	• • •	Ploughing and Cane sown	Cane.	

and back again to cotton, giving a came, a cotton and a fodder crop with perhaps a little grain in three years. The came field is selected next to the well, as the crop has to be kept alive during the hottest months, and always gets more frequent waterings than any other. The land is ploughed not less than seven or eight, and up to 20 times, the more ploughings the better. All the available manure has first been spread over the field, and is ploughed in. The planting is done from the middle of Phágan to the middle of Chet (March). The seed consists of joints ("pori") cut from last year's crop, which have been kept covered up in pits in the field. In planting them one man goes along with a plough and another follows, laying down the joints at intervals of six or eight inches in the furrow. The plough in making a new furrow covers up the former one; and the whole field is finally rolled. The cames spring from the eyes ("ánkh") of the joint. About four or five cames will come of one joint. Then follow waterings at

intervals of seven or eight days in the uplands, and hoeings after each of the first few waterings. The fields are very carefully protected by stout hedges. In the Bet there are no waterings, and seldom any hoeings; and the fields are quite open. The cane in the uplande grows to a height of eight or ten feet, and when it becomes heavy, is protected by several stalks being tied together. In the Bet the height is only five or six feet, and this precantion is not necessary. There is altogether a great difference in the modes of cultivation, Dháia and Bet, due principally to the difference of natural condition, and partly to the different habits of the cultivators, those of the Dhaia being industrions Jats and of the Bet apathetic Mahomedans, of the Rajput and Gujar tribes principally. The method of extracting the juice is much the same in both tracts. Cutting goes on all day in the field, each cane being stripped, and the flag at the top with the small joints immediately below it being removed. In the evening these small joints are separated from the flag (which is then used for fodder or for feeding the boiler furnace) and tied up in bundles for seed. The cane is carted to the "belna" or mill, which stands just outside the village The pressing is done in this "belna" or mill, the cane being this passed in bundles between two horizontal wooden rollers, and the juice running into an earthenware jar set to catch it. In a corner of the enclosure of the mill stands the boiling shed; and the juice is taken into this and boiled in pans. In the "Dhaia" the Jat requires no assistance in the boiling, and turns his juice into lumps ("beli") of "gur" or into "shakar," which he may dispose of that very day. In the Bet the money-lender has invariably advanced on the crop, and his man does the boiling. The produce when boiled assumes the semi-liquid form of "ráb," which is taken in part payment of the debt. I need not here enter into an account of the manufacture of sugar from rab, or of the relation between the money-lender and cultivator. I have already written a separate paper embracing the whole subject; and these details would be out of place here, but will find their place in an appendix.* Sugarcane is the crop invariably converted into cash, and may be said to be the revenue-paying one. It is very valuable, otherwise it could never have held its own so long, for it occupies the land the better part of two years; and in the Dháia the labour of cultivation is incessant. Bullocks stand the work at the wells and in the "belnas" for only a few years: and the cultivators are never tired of complaining of their hard life. objections make it a dangerous crop to any but the most thrifty classes. The Lats keep out of debt because it is in them to do so: but the Mahomedan of the Bet will tell one that he is a victim of the sugarcane crop, and he is right to some extent, for he has not the qualities which would enable him to subsist while his cane is growing.

"Ponda" sugarcane is now raised in a good many villages under Ludhiána. It was formerly confined to two or three Arsien villages; but the cultivation has spread. This crop requires a great deal of ma-

Appendix XIII.

nure and constant attention; and pigs and jackals are very fond of it. But the canes have a ready sale in the Ludhiána bazár, and the crop is worth at least from Rs. 100 to 150 an acre; and is often bought for that amount as it stands by the green-grocers.

- Cotton is sown during the months Chet-Har (April-June) in fields which have had a kharif or a rabi Cotton_ The best crops are raised in land which has enjoyed a fallow in the rabi ("sanwe"). The vield is better because of the fallow, and also because the sowings are early. It is not usual to have cotton immediately after a rabi, and where this is done in Har the yield is poor. The crop generally follows cane, as explained in the last paragraph. The number of ploughings required is not so great as in the case of cane, and three to four are sufficient, the Dhana it is grown in the unirrigated lands of a few Samrala villages; but mostly in the well lands, and in defasti or niai fields of the Bet. Where grown at the wells irrigation is necessary before sowing, unless there have been stray showers of rain in April-June, as there very often Two or three heeings are given. After the autumn rains the waterings are very rare. Pickings commence in October, and go on to the end of November, being eight to ten in number, at intervals of a week. The pickings are done by the women (at all events among the Jats); and the cotton and seed are separated by means of a gin or "beina." Of the seed part is kept for sowing, and the rest given to the cattle ("varewan"). It is a favourite food for the well cattle in the cold weather, and for milch kine at all times. "Til" is often grown with the cotton. It is also very usual to run a plough through the field while the plants are standing, and sow barley, carrots, metha, &c., generally for fodder; but there is very often a decent crop of barley caught in this way. A cotton field may have in this way three or four crops in it at one time. There are no varieties of cotton. The usual short-stapled sort of the Panjáb plains with bushes three or four feet in height is grown everywhere.
- Maize is sown at the end of July (from the beginning to the 114. middle of Sawan) after three or four ploughings Maize. with a great deal of manure, the best crops being raised in the fields next to the site. It receives the usual number of horings (three or four), and springs up very fast, reaching a height of seven or eight feet and growing as well in Bet, irrigated and unirrigated, as in Dhais land, provided that it gets sufficient manure. The crop ripens in sixty to seventy days, and is reaped at the end of October and beginning of November. There are generally two to four cobson stalk. Maize is, I think, the best crop of all for the cultivator. It does not require much labour in preparation, and few waterings are necessary if the rains The yield is very great, the value of the crop being next to are good. that of cane, while it has the advantage of a very speedy return. The zemindar lives on maize for some months, and it is a good, wholesome

food. The stalks are also very fair fodder, and last for some time. The ordinary maize of the Dháia has cobs about seven or eight inches in length, with a fair-sized seed of a yellow colour. A species known as "batálan" is grown in the Bét. It has a shorter cob and a smaller grain, but it is said to ripen in two and a half months to three of the ordinary maize, and for this reason the seed is used by the Dháia people when there has been a break in rains and sowings are late.

115. Wheat is grown in the unirrigated lands of the Bet and of a few Dhaia villages; and at the wells every-Wiscat. where. It is sown during October and November, as the cultivator has time for it; the unirrigated crops being takeu first; so that the muisture be not lost. The unirrigated lands, where not manured, have received a number of ploughings in the cold weather, or rather ought to have, for the ordinary Mahomedan cultivator of the Bet seldom does his duty to the soil. In the manured lands of the Bét and the irrigated Dháia the erop follows maize, in which case the preparation consists of two or three ploughings; or, if the land has had a fallow, there have been winter ploughings as in the ordinary unirrigated lands. When the crop has spring it receives in niái lands of the Dhaia a top dressing of all the mannre then available, and several waterings and hoeings. The waterings are at intervals of fifteen days at least. The crop is reaped towards the end of April, or the beginning of May. The grain is eaten or sold; and the straw used as fodder for bulloeks.

The wheat grown everywhere is the bearded red variety common to the Province, and is called "Kanak," or "Gheo," or "Lál Kanak." The grain of the Bét is held to be better than that of the Dháia (to a native's taste), as the flour is said to be more sticky when moistened and pleasanter in flavour. I suppose it is a more moist wheat, like the English. The varieties to which special names are given are uncommon, and only grown in irrigated land. They are:—

Mundi.—This is a beardless red wheat, with a slightly higher stalk and a larger grain than the common kind. The yield is said to be better; but the straw is hard and not good for fodder. The flour is much the same. Dudh kháni or Dudhi is a white wheat, also beardless, much the same in appearance as the last. The flour is very white, and much used by "halwaies" for making sweetmeats. The straw is said to be hard and poor fodder. Phaman or Badkanak.—This is a very tall variety. I have seen it growing to a height of four or five feet in good well land. The grain is large; but said to be hard and not good for flour, and the straw is refused by the cattle. The yield is superior to that of any other sort. I cannot say what foundation there is for the preference for the common wheat, or how much of it is due to prejudice; but the use of these varieties is not spreading.

116. The cultivation of barley does not differ from that of wheat.

Barley.

There are no recognized varieties, except a sort called "Cabuli jan," which is grown in places,

and has a whiter grain that ordinary barley. Barley is much hardier than wheat, is sown later and ripeus earlier, being in the ground about five months to six of wheat. Wheat cannot be sown later than November; but barley will germinate, and give some yield even when sown as late as the end of December. When the moisture in the soil has dried, and there has been no fall of rain in October and November, the zemindar will go on in hope of showers as late even as Christmas; and if there is rain at this time, he will sow late barley (called "kanouji,") and get a very poor crop, which gives a yield, perhaps not one quarter of a good one, but still something to keep him alive. I have known sowings as late as January 10th; and, if the subsequent rains are heavy, the yield of grain may be a very decent one, though the stalks are never more than one to one and a half feet high.

Gram.

a good deal of moisture to make it germinate, though the plant is hardy enough afterwards; and it is only in a year of heavy rainfall that a large area is sown with it alone. The people say that the crop depends entirely on the rain of Sawan, i. e, the earliest monsoon rains, and that, if these are scanty, however good the subsequent falls may be, the crop will come to nothing. The sowings commence from the middle of September and go on for two weeks only, as it is useless to sow it after the first week of October. It is reaped first of all the spring crops, early in April. Gram is not grown in the Bét, the soil not being suitable.

The great unirrigated crop of the Dhaia is a mixture of gram with either wheat or barley, sometimes with Mixed gram and wheat both, and called "berra" in all cases. It is sown in October, not later than the end of that month, in land that has had a year's fallow, and been prepared during the winter by ploughings. The seed is drilled iu, and every eighth or tenth drill is sown with " sarson?" or rape. The sarson ripens first, and is cut at the end of March, the rest being ready about April The reason for sowing two crops together is clearly that both of them are not likely to fail in the same season. The "sarson" is something over and above the regular crop of the field; and, if a success, gives a handsome return. In some years the wheat or barley is the better crop, and in some the gram; but it must be a very bad year in which both, as well as the sarson, fail. The "berra" is cut and threshed as one crop; and no attempt is made to reap the grains separately. The mixed grain is sold, and people seem to prefer the meal made of it, I suppose because it is chenper than pure wheat and still has some in it; but it is easy to separate the wheat and gram by means of a "chhanna" or iron sieve, which allows the wheat grains to pass through and not the gram. But this is very rarely used as yet. Sarson, besides being grown in the "berra" fields, is also sometimes cultivated in irrigated patches as a single crop. Táramíra (Brassica eruca) rarely takes its place. The sarson is either made into oil in the village presses, or brought to market and sold in seed. Almost every field of

Dháia. An occasional field of ("alsi") linseed will be found in the Bét. Rice ("munji" "dhán") is grown in places along the river in completely new land. It is a very coarse sort, and the market price is about 30 seers a rupee. The whole area under it is only 2,500 acres. When a new piece of land turns up it is ploughed roughly a couple of times, the grass ("dib") often being left standing, and the rice sown. There is perhaps no crop at all; but generally a fair yield. There is no transplanting, and the crop ripens in forty days from sowing.

These are the principal crops, and the remaining ones may be disposed of briefly. " San" (Crotalaria juncea) is Miscellaneous crops. grown in the unirrigated lands in sufficient amount to make the necessary rapes for agricultural purposes. It is ready in October, and is cut and steeped in the village ponds, the process causing a most offensive odonr. It is then taken out, dried in the sun, the fibres pulled apart and worked by the hand into thin ropes, which are again steeped and then beaten (skutched). These thin ropes are then twisted into others of the necessary thickness. kukra" (Hibiscus cannabinus) is grown round the edges of cane fields sometimes. Indigo is grown in a few Mahomedan villages, principally in the Bet. The green crop is steeped, and the dye made into balls after the usual native method. Poppies are grown in a few villages for "post" and a catch crop of "kangni" or "china" is occasionally taken at the wells in a bad year when the price of grain is high. Tobacco is grown at the wells in fields which have borne a kharif crop. It is sown in plots at the beginning of April, is transplanted in a week or ten days, and is cut in May. It requires a great deal of manure and constant watering. The Mahomedan cultivators of the Bét (Aráien, Gujar, &c.) grow a great deal; but there is also some in the "Dhaia." Melone, musk ("kharburza"), or water ("tarbuza") are grown in the Bet, in unirrigated land. The crop is sown in April, and the melons come into the market in May and go on through June. There is, of course, a very large demand for them in the city of Ludhiana; and the greengrocers ("sabzi farosh") buy them from the cultivator by the field, when it is known what the crop is likely to be. The price realized is sometimes very high, and is generally Rs. 20 to 30 au acre. The expense of the manure is considerable; but the crop is a paying one to the cultivator. There is a second crop of water-melous in the kharif, sown in July and picked in October-November. Garlic (" lassan") and onions (" piáj") are also grown after the rahi. In the Dhain the cultivator grows a few square yards of the latter for his own consumption; but in the Bet large fields are grown and sold to the greengrocers. "Lassan" fetches a high price, and is hought like melons by the field. Pepper ("mirch") is also grown in the Araien and Gujar villages. All sorts of native vegetables are grown in the wells in the Bet, but I need not notice them in detail. They are "souf" (foeniculum vulgare), "dhania" (coriander), potatoes, "Arabi" (the edible arum), "salgam" (turnips), "muli" (radishes), "ajwain, "" "kira" and "kakri" (cucumbers).

^{*&}quot; Ptychotis ajwain."

The cotton at the wells is usually followed by a green fodder crop of "metha" (fenugreek), "senji" (trefoil) grown alone or mixed with barley, or by a crop of carrots, which are largely eaten by the people themselves and also given to cattle.

121. The following is a calendar showing the ordinary round of Agricultural calendar.

agricultural work of the year; and it will be found to contain much of the information scattered over the preceding paragraphs.

		NAM	в оу Монтн.			
No.	Vernacular.		English.	State of Agriculture.		
1	Chét	•••	March-April	Cane planted up to 15th. Cotton sowings all through the month; also melons up to 15th. Wheat crop irrigated once; and if rain falls unirrigated lands ploughed for next rabi. At the end of the month sarson and then barley reaping begun.		
2	Baisákh	•••	April-May	Allrabi crops ripe; gram, "berra," which reaped first in unirrigated and then in irrigated lands. Threshing begun. Cotton sowings and cane watered all through the month.		
3	Jét	•••	May-June	Threshing completed, and grain and straw stored. Cotton sowings and cane watered.		
4	Hár	•••	June-July	Cotton sowing completed by 15th, and cane watered. Rains commence by the middle or end of the month; and one or perhaps two ploughings for the autumn unirrigated crop kiven; and one in the land intended for the rabi: san sown, and moth, charri &c rowings commenced.		
5	Sáwan		July-August	Maize sowings commenced, and all kharif sowings should be completed by middle of the mouth. Then the ploughings for the rabi commence, and three or four given. Kharif well crops watered if necessary.		
6	Bhádon		August-September	Ploughings for the rabi and kharif crops watered if necessary.		

The cotton at the wells is usually followed by a green fodder Rabi fodder crops.

Rabi fodder crops.

erop of "metha" (fenugreek), "senji" (trefoil) grown alone or mixed with barley, or by a crop of carrots, which are largely eaten by the people themselves and also given to cattle.

Agricultural calendar.

Agricultural calendar.

agricultural work of the year; and it will be found to contain much of the information scattered over the preceding paragraphs.

		Nam	в оу Монтн.		
No.	Vernacular.		English.	State of Agriculture.	
1	Chét	•••	March-April	Cane planted up to 15th. Cotton sowings all through the month; also melons up to 15th. Wheat cropizing ated once; and if rain falls unirrigated lands ploughed for next rabi. At the end of the month sarson and then barley reaping begun.	
2	Baisákh	•••	April-May	All rabi crops ripe; gram, "berra," wheat reaped first in unirrigated and then in irrigated lands. Threshing begun. Cetton sowings and cane watered all through the month.	
8	Jét	•••	May-June	Threshing completed, and grain and straw stored. Cotton sowings and cane watered.	
4	Hár	***	June-July	Cotton sowing completed by 15th, and cane watered. Rains commence by the middle or end of the month; and one or perhaps two ploughings for the autumn unirrigated crop given; and one in the land intended for the rabi: san sown, and moth, charri &c rowings commenced.	
5	Sáwan	•••	July-August	Maize sowings commenced, and all kharif sowings should be completed by middle of the mouth. Then the ploughings for the rabi commence, and three or four given. Kharif well crops watered if necessary.	
6	Bhádon		August-September	Ploughings for the rabi and kharif crops watered if necessary.	

		NAM	в от Монтн.			
No.	Vernacular.		English.	Name of Agriculture.		
7	Assoj	•••	September-October	Rabi sowings begun in unirrigated lands. Gram from 1st to 15th, and then "berra."		
8	Kátak	•••	October-November	Rabi sowings continued and completed, the irrigated lands last of all; and by the middle of the month kharif harvesting commences. Cotton picked all through the month. Kharif crops watered in these two months as necessary.		
9	Magar	••.	November-December	Late rabi sowings. Kharif crops threshed in first half of the month Cotton pickings 40 on; and cane pressing commences towards end of month.		
10	Poh	•••	December-January	Cotton pickings completed, and cane cutting and pressing goes on. Rabi crops irrigated.		
11	Mágh	•••	January-February	Cane cut and pressed; rabi crops watered. Lands ploughed for cane and for next rabi if rain falls.		
12	Phágan	•••	February-March	Rabi crops watered; cane and cotton sowings commence from the latter end of the month.		

In an Appendix will be found a collection of sayings current amongst the villagers, which contain much practical wisdom, and illustrate many points on the agriculture of the district, giving the proper seasons for the various operations, &c. They would take up too much room in the body of the report.

122. The subject of fertility of the soil and the average yield of the various crops will be considered in the second part of this report, when I give the results of the experiments made during settlement operations.

The agriculture which I have described in the preceding paralinprovements in agriculture and staples.

graphs is of much the same character as it has been for the last century or two. With the increase of population the land has come to be more heavily manured and cropped, but the manner of tilling it has remained unclianged. No new staples have been introduced

within recorded memory. The agriculture is, I think, perfectly sound; and it would not be easy to show a Jat how he could do better with the capital at his disposal. A better sugarcane mill may take the place of the present clumsy machine; and improvements may be effected in the form of the plough; but I do not see that much is to be done in the way of introducing new staptes or manures. There are some points in which the people might be instructed; but there are not many in the present system which could be pointed out as really faulty. A Jat would willingly adopt any real improvement within his means, as he is not prejudiced. For the ordinary cultivator of the Bét one has only to set up his neighbour the Aráien or the Hindu Jat of the Dháia as an example of what he might do.

European enterprise. European enterprise has not as yet obtained any footing in the district; nor is it likely to do so, as there does not appear to be any opening.

There are a few gardens round the city of Ludhiáná in which fruit trees are grown, but none elsewhere; and the supply of fruit is derived from other districts. Even if the people had the inclination to plant such gardens, they could not be much of a success for the soil is not generally suited to the growth of fruit trees.

I have already (in para. 11) referred to the subject of arboriculture:

Arboriculture.

The roads under district management have good avenues of "shisham," "siris," "kikar," &c., and the Grand Trunk Road is also lined with trees in places. There are two plantations under the Forest Department; but the absence of waste lands puts out of the question any projects for raising them in village areas. There is quite as much wood grown as the people require for ordinary purposes.

I now come to give some account of the calamities to which the agriculture of the district is exposed, Calamities of season: and of these the most important is here as in Drought and famine. other districts-drought. It will be evident from the general description of the physical conditions of the district, and that given of the agriculture in this chapter, that the effects of a failure of the rainfall on the various tracts are very different. The low-lying Bet suffers little from a mere deficiency of rain, for in the greater part of it, i.e. all above Ludhiana, the normal rainfall is high (30-27 inches), and the soil is naturally moist. On the other hand too heavy a fall often injures the crops. The annual floods of the river cover the country to a distance of one or two miles from its regular banks along the whole course of 60 miles; and the percolation reaches much further. Pargana Nurpur, which is the lower half of the Ludhiaua Bet, has a considerable proportion of irrigation, while the Jagraon Bet is all under the influence of the river. In the uplands of the Samrala tabsil there is 40 per ceut, of irrigation, and in the

east of Ludhiana 25 to 80, the rainfall varying from 30 to 25 inches. In the south-western parts of Ludhiána (about Pakhowál) and in Jagráon tahail we have a rainfull decreasing from 25 to less than 20 inches, and the proportion of irrigation 15 in the former, while it is only 8 per cent. in the uplands of Jagraon. Finally in the Jangal detached villages the rainfall is 17 to 15 inches; and there is no irrigation. A failure of the autumn rains affects the whole of the uplands to some extent. In the highly irrigated tracts of the east the well cattle depend on the fodder grown in the unirrigated fields and on the grass; and a deficiency of fodder means that they will be much under-fed, while at the same time they are worked much harder than usual, for the kharif well crops require more frequent waterings. These kharff crops are much improved by rain, as well water only reaches the roots; but an average yield is obtained from them in a year of deficient rainfall. When the time for the rabi sowings arrives, if the rain still holds off, the wells are' worked incessantly, and water taken to all fields within reach, sometimes to very great distances, in order to produce the necessary moisture for the germination of the seed. I believe that nearly 20 per cent, of the cultivation of tabsil Samrala can be covered in this way, besides the 40 per cent. regularly irrigated. The supply of water in the wells is of course limited in most villages, particularly in such a season as that in which it would be used for this purpose; but the cultivator is willing to neglect his kharif to some extent in order to insure a sowing of the unirrigated rabi. There is likely to be some rain in the winter, and the fields sown will then have a good crop without further assistance. But, if the rain is not sufficient for sowing, a large area of the stiffer soils must always remain uncropped, and the cultivator loses this; while probably one or two of his bullocks give way. He will generally have enough grain in store to put him over the had season with the aid of what he gets from the land irrigated and unirrigated on which he has raised a crop; and he will sow patches of carrots, chini, &c., at his well. Carrots appear to be the great article of food on which the cultivator falls back on such occasion wherever wells work, and the praises of the vegetable are celebrated in the popular rhyme:-

> Gájaran gajráli; chaja parbhut dhári; Bánhán, tangan sukha; kite tid usáre.

A bad season, i. e. the failure total or partial of two harvests, for the rabi will never be much if the kharif is bad, may or may not leave the cultivator in the money-lenders' books for the price of a bullock or for some grain, this depending on the state of his pocket and the amount of grain he had to start with. A second bad year, one in which the fodder dried up, and the wells had to be used for sowing the rabi, would be likely very seriously to cripple the resources of the whole population, and involve them in debt to a large extent. Such was the calumitous famine of 1783 A.D., but the conditions are much altered since then owing to increase of irrigation; and s. h. an

event is not likely to occur even once in a century. In the western parts a failure of the autumn rain means the loss of both harvests over a large area of unirrigated land, although the wells can be used for sowing the rabi here also, and some villages on the Ferozepur border have wells which are used to a very limited extent in ordinary years, having been sunk as something to fall back on in a year of drought. But the whole area so protected is limited, and the loss of the fodder crops would be followed by a great mortality amongst the cattle. am told that in 1860 and 1868, the last occasions on which there has heen anything resembling a drought, the people from the Jangal began in August and September to swarm over the country in search of straw and other fodder, just as they have been doing this year. As the drought continued every one wanted to dispose of at least some of his cattle, and the price fell, till a good bullock would not fetch a few rupees. Then the cattle began to be turned out ownerless, and died all over the country. But the people themselves were well off. Most families will be found to have in store at any time the grain of two rabi harvests; and many of three or more, especially if the seasons have been good everywhere and prices low. The Jats watch the market very keenly, and sell what they calculate they can spare at the most favourable time. What suits the villager of these western parts best is to have good harvests here, a famine somewhere else, and the consequent high prices. Such was the combination in 1877-78 when famine prices followed very fair harvests throughout the district, owing to the drain towards the Deccan. But, even if the season has been a bad one in the district, most land-owners will be found to profit by famine prices, provided of course that the granaries have not been depleted in previous years; and I doubt if they ever will be again unless by two bad seasons in succession and the failure of all four harvests. The immense p ofits made by the sale of grain in the three years-1860, 1868 and 1877-has greatly encouraged the storing of it; and I believe that another year of famine prices would find the stocks in the houses of the agriculturists much larger than they have ever been before. If the succeeding year is a good one, the cultivator has probably more than recouped his losses by the profits on the sale of his grain, and can purchase cattle to make up for what has perished. But in all probability he had more to start with than were actually required for his simple agriculture, and can go on for a year or two with a reduced number. A second bad season would of course do injury, more or less according as the failure of crop was total or partial. There would be a further and more general loss of cattle; and the cultivator would have to keep all his grain for his own consumption. There has, happily, been no such combination under our rule as the complete failure of four harvests in succession: and, as within the next two or three years the distributaries of the Aboliar and Bhatinda branches of the canal will have brought the means of irrigation within the reach of every village that requires it in Jagraon and in the south and west of Ludhiana, we may say that its occurrence has now been rendered impossible. When the irrigation from

the canal has been fully developed, there will be no part of the uplands with less than 25 or 30 per cent. of its area protected.

With this explanation of the manner in which the various portions of the district are liable to be affect-History of famines and ed by drought, I will proceed to give such inscarcities. formation as I have been able to collect about the history of the subject. The earliest famine of which men talk is that of Sambat 1787 (A.D. 1730). The memory of it is preserved in the saying "sat-assiake maria hua," applied to a man who has got food, and refuses to feed a starring beggar; but I can learn no particulars as to how the people lived, or what was the extent of its ravages. There was drought in A.D. 1759 and again in 1770, but apparently no famine; and the effects were only felt for a few months. The memory of these visitations has been effaced by that which Famine of Samhat 1840. followed. The terrible famine of Sambat 1840 (A.D. 1783), called "chália," appears to have spared no part of Northern India, and this district suffered with the rest of the country. It began with the failure of the autumn rains of Sambat 1839, there being little or no yield in the kharif and following rabi harvests, rose from Bhadon (Sambat 1839), and by Baisakh (Sambat 1840) wheat was selling at 20 seers katcha (8 seers packa) a rupee. Rain fell in Har but not afterwards; and the kharif crops of Sambat 1840 all withered. In Katak of that year wheat was at 8 seers katcha (34 seers packa) a rupeo; and, if we consider the difference in the value of money then and now, we may realize the extent of calamity from this. The rabi was not sown except at the wells, of which there were not nearly so many as now. In Chet Sambat 1841 there was rain, and grass &c. grew: and in Har the usual autumn rains began. The kharif and rabi following were very good. The pressure of lasted nearly 21, years altogether, and the mortality must have been tremendous. Grain could not be bought for money; people are said to have died with bags of rupees under their heads. All natural affection was lost sight of, and parents robbed their children of their food, and looked on to see them die. Many emigrated beyond the Jamua, where there appears to have been something to live on. People are even said to have been driven to cannibalism. The cattle died everywhere; and when the rain did come men had to drag the plough through the fields. The green crop was eaten whenever the heads were formed, and many lost their lives from sickness brought on by improper food. Famine was as usual followed by disease. The people appear to have been able to resume the cultivation of their land, and the country gradually recovered its prosperity; but the horrors of the "chália" will long be remembered. It is worthy of remark that not a single village was totally deserted in this famine. Proprietors abandoned their land here and there, and many must have died; but the mass of them adhered to their villages, probably in most cases because there were wells at which the survivors could eke out some sort of existence. The

history of no village, as far as I know, contains any allusion to its having been deserted at this time; and the few that date their foundation from a later period than the "chália" were settled by the ruler of the time in the surplus area of some old village contrary to the wishes of the rightful owners.

The next famine was in Sambat 1869 (1812-13 A.D.) The kharif

Sambat 1869.

of Sambat 1868 and rabi following were poor,
and fodder scarce. Rain fell at first, but
stopped, and the kharif of Sambat 1869 and rabi succeeding failed, except
at the wells. Grain rose to 18 seers katcha (7 seers packa); and
straw was not to be had. There was a tremendous loss of cattle,
and oxen ceased to have any value, being given away for nothing
or turned loose in the fields.

The autumn rains of Sambat 1870 were good, and prices fell. The loss of human life was not perhaps very great, and was confined to the poorer classes, laborers and artizans, in the towns and villages.

The history of the "nabia" or scarcity of Sambat 1890 (1833 A.D.)

Sambat 1890 and 1894.

is as follows. Grain was selling at two maunds (packa) a rupee when it began. The autumn rain of Sambat 1890 failed; and the two harvests produced almost nothing except at the wells, where there were carrots, &c., as usual. The loss of human life, and of cattle appears, not to have been considerable.

except at the wells, where there were carrots, &c., as usual. The loss of human life and of cattle appears not to have been considerable; and the price of gram was never higher than 17 seers packa; but this was of course very dear for those times, and would mean eight or ten now. In Sambat 1894 there was a searcity, but not of much severity. The people had not, however, recovered from the "ninety." Witness the couplet:—

"Nawe then bache chour-anwe ne mare. Dine badal, rate tare."

"Saved from the 90, succumbed to 94; there were clouds by day and starry nights."

Of the next scarcity, that of 1860-61, we have official information. The account for this district is as follows: Sambat 1917. The rabi of Sambat 1917 (1860 A.D.) was poor, the winter rains having failed; and the price of wheat rose to 34 seers packa by Baisákh. There was rain in Hár, but not in the following months; and the kharif was sown, but withered. There was a great drain on the grain stores of this district caused by the scarcity in those to the south; and the price of wheat rose till it reached at one time seven or eight seers a rapec. The rabi was very poor, but did not fail entirely; and the rains of 1918 were plentiful. There was a great scarcity of fodder and a considerable loss of cattle; but none of human life from actual starvation, in the villages at all events. It was a famine in the "Bangar" country (Rohtak, Hissar, &c.), and numbers flocked northwards from those parts. Our people say "Kál Bángar thon upje bura," "a famine coming from the Bángar is bad." The stores of grain were sold at an immense profit, which prohably more than compensated for the loss of catile. The scarcity of Sambat 1917 will be found to be the turning point in the fortunes of many agriculturists of the western and jangal villages. Most of them had grain in store; but the unlucky few that had not were compelled to incur a debt of which they have never got rid. Mortgages in Jagráon tahsil can he as often as not be traced back to the "17" ("satárah") or the following "25" ("panji"). There was some acute distress amongst the lower classes in the towns; but the whole famine expenditure appears to have amounted only to about Rs. 6,000; and, although a suspension of 3 per cent of the revenue was considered necessary, the balance was realized at once. Captain (afterwards Colonel) McNeile writes in 1861 that the money-lenders were complaining that the Jats had paid off all their debts and taken the grain trade completely out of the hands of the regular merchants.

The scarcity of 1869-70 was, as regards this district, of much the same character as that of 1860-61; but Sambat 1925. the harvests were better, and the injury done was confined to a not very considerable loss of cattle, and to debt incurred by individuals from this cause or from their having to purchase grain for food. Wheat went as high as eight or ten seers a rupee; but the people affected by this were as usual the artizans and labourers in the towns. There was on both occasions a good deal of immigration from the south of starving people. The whole expenditure on relief works was Rs. 7,000, entirely in the towns. On the other hand the mass of the agricultural population, at all events of the western parts of the district where the effects of famine ought first to be felt, profited greatly by the high prices as in 1860; and I believe that the advantages to them as a whole far outweighed the evils. Nominal suspensions to the amount of Rs. 2,500 were sanctioned; but recovered next year.

In the reports of 1877-78 Ludhiána figures as "unaffected."

The harvests were very fair; but prices were run up to famine rates in consequence of the demand from the North-Western Provinces, Madras and Bombay. This was to to the entire benefit of the cultivator, and to such as had stores of grain.

Thus we have the history of the last century as follows: A terrible famine with immense loss of life in A.D. 1783; acute distress in 1812, and distress in 1833 and 1837 felt by most people. But for the development of communications which took place after annexation, I do not think that prices would have been very high in 1860 and 1868; and it is probable that the gain to the agricultural population was greater than the loss in those years. There is, however, a very considerable portion of both town and village population who will always be affected by a rise of prices, the classes who subsists by labour paid for by a cash wage; and to these must be added the numbers of immigrants who are driven into this district by famine in the country to the south of it.

125. I will give next an account of some of the minor calamities of season and of the pests from which the crops suffer.

"Agast" or "Agat" is a north wind which blows for a day or two about Bhadon 22nd (middle of September), and breaks the maize stalks, besides injuring in a less degree the cane and cotton. The name is that of a demon who is supposed to cross the country on his way from the hills to Ceylon, and spreads rain amongst the crops in his course, which is generally only a few miles wide. His advent is followed by the appearance of the bird called "manuola" (wagtail); and is really the beginning of the cold weather. Witness the couplet:—

" Bok ion teri báis Lauka mun chart Agot. Nama sir samlia; makhan pun per gia hath."

"Bhadon by your 22nd day Agat sets out for Lanka; the streams and water become controlled; the butter hardens."

Frost does a good deal of harm ("Pala marlia" is the expression med) to the cause and to the late cotton (sometimes); as well as to the serson in the rabi. It does not appear to affect the wheat and gram; but the wheat and barley when the grains are forming in the heads are very liable to be blighted (lodged?) by cold winds from the north or west, the east winds are always mild. This is called "bulla marlia;" and the people have no very clear account to give of what happens. They say that they find some morning that the grain is blighted, and the heads turn yellow and wither.

Hail storms ("gola," "galla") occur almost annually somewhere or other in the district, either in the Hail. months of October or in March. The kharif or part of it is generally reaped at the time that the autumn storms come; but considerable injury is sometimes done to the pulses. The rabi always suffers severely from hail when it falls, the wheat and barley stalks being snapped, and the gram pods broken off. In a few days the crop gets a yellow withered appearance. A hail storm generally passes across some part of the district to a width of one or two miles, but the total injury done is never very considerable, only a few fields in any village being affected as a rule. Lightning. Lightning does occasional injury to fields of Insects : Locusts. cotton, pulses and san in the autumn.

Locusts ("alin, tid") appear at places every third or fourth year, and go across some of the villages in a line two or three nules wide eating up everything. Their appearance is generally in September-October (Bhádou-Assoj). Their ravages have never, as far as I can learn, been so extensive as to cause a general calamity; and the injury is usually partial, like that of hail storms. They have not appeared now for five

or six years. "Sondi" are green caterpillars which attack the gram and sarson stalks. Good rains in the cold weather Caterpillare. will kill them; but if the rains are short, they are most destructive to unirrigated crops, much worse than locusts because they are universal and come every year. They live in holes, and come out during the night to work. Hard soils suffer most. I have seeu in places at least half of the gram crop eaten "Kungi." by them. "Kungi," or red rust, is said by the natives to he caused by a tiny insect that appears on the wheat or barley heads when rain is followed by clouds. It affects the crops in Magh-Chet when the cars are beginning to form, and covers them with a fine dust, yellow or red, under which the grain shrivels. General injury is done by "kungi" at rare intervals, the last bad year for it having been 1875. It often appears, but a few days of sunshine drive it away. Kungi affects irrigated as well as unirrigated crops. Young cane plants are attacked by a caterpillar called "kansua," and full grown cane by small insects called Telia, &c. "tela" (black) and "punke" (white). Tela Cane and cotton are cleared of these by rain, also attacks cotton. otherwise the juice of the cane becomes watery and poor. White ants ("seonk") attack the roots of the unirrigated rabi crops in all soils, and do a great deal of injury in some White ants. years. The cure for them, as for all other posts, is rain.

Field rate also do some harm in fight soils, but have never come to be much of a pest. "Sondi" caterpillars and white ants do much more injury than anything else to the unirrigated crops.

Jakals eat the maize all over the district, and of the destruction caused by pigs in the villages under Ludhiana Jackals, Pigs. I have written in para. 14. Herds of deer wander all over the fields, but they are not so numerous as to a l'eople put up in places sticks with cloth cause much injury. attached to scare the deer off (called "dame"). Scarcorows, &c.: watch-Platforms ("manna") are erected on the trees or on stakes stuck in the ground for the purpose of watching the maize and joar fields, and boys sit on these screaming and firing mud pellets from slings ("gopia"). A rude fiddle made of half a gourd with a piece of gut stretched across it, is used in the Bet for frightening the pigs from the cane. The noise may be heard at a great distance. The cultivators also light fires along their fields for the same purpose, and have to watch all night. In most villages a rákhi or watchman is appointed, whose duty it is to wander about the fields and see that cattle do not stray amongst the crops. If cattle arc caught trespassing, the owner is fined a couple of seers of grain, which is paid to the watcher, who also receives an allowance from the whole village at harvest time. Watching at night is not usual except where, in places, the habit of pilfering from the fields has become common, or in the neighbourhood of Harni villages or of the towns.

126. There are only two or three large zemindari e-tates in the district, and the cultivation is almost entirely by the proprietors themselves. Our returns show 21 per cent. of the cultivated area as in the hands of tenants, but the greater part of this is held by men who own other land. The following are the proportions of the various classes of tenants shown in Appendix II—A with this report:—

How held.	Per cent of total cultivation.
With occupancy rights	5
At will by proprietors or by tenants who have occupancy rights in other lands	9
At will by tenants who have no such rights	7
TOTAL	. 21

When a proprietor has any spare land, more than he can work, this is either let to a co-sharer who has not enough land of his own to support himself,* or an agricultural partnership is entered into.

The subject of rates of rent will be found fully discussed elsewhere (in Part II). Rents are fixed for the year about June 15th (Nimánia); but earlier and separately for cane and cotton. For the kharif crops (cane, cotton, maize, charri, moth, &c.) a cash rate on the crop is almost invariably fixed by Eabil or scop rents. agreement, and paid when the crop is ripe or nearly so, not beforehand. The reason is that if the crop is a had one a liberal owner will sometimes reduce the rate fixed. The rent is calculated on the local measure, which is the "katcha" bigah in the east, and the ghumao or kanal in Jagraon and in most of the The rent-rate is mentioned, and the amount to be paid is calculated on the known area of the field; or the ground is paced or measured with a rope. The cash rent only covers the harvest, except that sometimes a rate is fixed so as to include the wheat following the maize; but more generally a separate rent in kind is taken for the wheat. The land returns to the owner at once when the crop has been cut. Thus land is rented at the Nimania for "charri" only; and the The proprietor must arrange for the winter ploughings crop is taken.

^{*}Or to a person who has no proprietary rights.

necessary for the crop of next year, and he disposes of the land at once with this view; but the agreement has really effect from the next Nimánia, seven or eight months after, and would be for the rabi In some villages, where the land is all much of one quality and the cultivation not very good (Malioinedan Bigah rutes. Raiput villages mostly), the proprietors will rent their land at so much all round on the katcha bigah. saves trouble, to escape which is the great object in life of a Mahome-A field is often rented for the cultivation of a single dan land-owner. crop like cane, charri, &c.; but, where a Rents for holdings. number of fields are rented in one holding (" lahna"), the rent takes the form of this general rate per bigal, or "zabti" rates are agreed on for certain crops and kind rents for others, the tenant raising the crops that suit him best; or again a lump sum ("chakota") is fixed to be paid by the tenant as rent of the holding for the whole year, he having liberty to raise what crop he likes. ing rented in any of these ways will consist of all sorts of land.

Rents in kind are taken for the rabi crops, rarely for cotton, and almost never for other kharif crops, except in Rents in kind. Jagraon talisit. The straw is divided as well as the grain, and the proprietor takes a somewhat smaller proportion of the former than of the latter. The usual rates are half to two-fifths for unirrigated lands with one-third of the straw; and for irrigated, one-third of grain and one-fourth straw. - "Bataie," or subdivision of produce is a very simple process in this district. The tenant cuts and threshes the grain; and on an appointed day the proprietor comes to the heap for his share. The grain is measured out in a large earthon-ware jar (called "chátti" or "máp") which holds about a katcha maund (17 seers packa), and the straw in arm-fulls. The proprietor then removes his share, If a faqir or other holy man appears, he gets a small portion, of which no account is taken. It says much for the intelligence of the people how entirely they have broken away from the very elaborate system of "bataie" which prevailed forty years ago when the revenue was taken There are none of the elaborate calculations of partly in kind. allowances to the various menials &c., such as are kept up in less advanced parts of the province; and there are also none of the superstitions observances attending the division of the produce. Perhaps the most important feature of all is the absence of the special weighman of the shop-keeping class. The allowances to menials I will notice later.

127. If a proprietor does not care to rent his land, he will enter into a partnership with some enlitivator (called a "sánjhi"). The "sánjhi" may contribute only his labour, in which case he is called "ji-de-sánjhi"; or he may also contribute cattle, when he is called sánjhi simply. The share of produce that the sánjhi receives would depend on what he contributes, each man and each beast counting as a unit in the calculation. Thus

a proprletor may have three bullocks and the sanjhi one; and they would together make up two ploughs in unirrigated lands. The sanjhi would in this case get two out of six shares in the produce or one-third; and the proprietor would probably pay the revenue and supply the seed, &c.: but this is a matter of agreement, and the terms vary a good deal. Sometimes several proprietors club together for the better working of their well land, jointly irrigating the fields of each in turn.

A "bitia kama" is a farm labourer kept by a proprietor, generally because the latter cannot for some reason (age &c.) work his plough. The "bitia kama" gets Re. 1 to Re. 1-8 a month, and his food and clothes from the proprietor; but has no interest in the produce.

The most numerous of the village menial class are the chamárs, of whom I have given some account Villagetmenials and artiin para, 56. These people have to perform zans; chamárs. certain tasks, of which the principal is the repair of all leather appliances (well buckets, seed-drills, &c.) and of the cultivators' shoes; and they have also to plaster the public gates; to collect grass and keep watch when any officer of Government comes; to carry bundles to the next village on such occasions, &c., &c. They have also to remove all dead cattle; and they receive the careases and skins of these. The chamars are paid full price for all new goods, shoes, buckets, &c.; and occasionally cultivate a piece of land, either alone or in partnership with a zemindar. They receive generally an allowance of grain per plough (about 30 seers); also some cotton and gur. These allowances are also (rarely) made on the total yield (about one seer per maund). The chamar families are generally divided amogst the sharers, say one to every ten houses of the latter.

The takhán or carpenter has to execute all repairs; and also to make small things like goads, yokes, &c., but for new ploughs, pitchforks and other implements he is paid in cash, the cultivator supplying the wood. He has a good deal of work about the wells, and a great deal at the presses ("belna") in villages where sugarcane is grown.

The lolar or blacksmith makes the plough-share, the cultivator supplying the iron, and also repairs all iron work. Sometimes one man does the work of carpenter and blacksmith. The takhán and lohár receive allowances either on the plough or on the total produce (from a quarter to one seer per maund).

Where there are chuhras, they are only used for calling the people Chuhras.

Chuhras.

wanted ("bulári"). The allowance is small, generally one-sixteenth to a quarter seer in the maund.

The jhinwar or waterman has to supply baskets for the cane press, and gets a very small allowance (about one-sixteenh to one-sixteenh to one-sixteenh to supply baskets for the cane.

He also supplies water at marriages, but is paid for this specially.

The naise or barber performs personal services to the cultivator, cuts his nails, shaves him, &c., &c., and receives much the same as the jhinwar.

The plough ("hal") on which they are generally calculated is such a variable measure that I have not given the allowances to those menials and artizans stated on it; but, roughly speaking, where all the kamins receive a full allowance, they absorb one-twentieth to one-sixteenth of the gross produce. This is according to the administration papers of the villages; but the practice is very different. Under the Sikhs, when the revenue was taken in kind by the servants of the ruler, a heap was set apart for the village servants (two to two and a half seers in the mannd); and this was divided amongst them according to their recognized shares. But with our fixed assessment this system could not continue, except where a proprietor takes rent in kind from a tenant. There has been a tendency to break up the constitution of the village in regard to these menials, the action being mostly on the part of the proprietors, for the kamins are generally much too degraded to wish for any change, and are in the power of the proprietors completely, not having even the option of changing their abode when too hard pressed. The result has been that the proprietors attempt to cut down the allowances and make new terms with the kamins. In many administration papers a condition has been recorded that the relation of the proprietors to the kamins is liable to annual revision, and in some villages there are no customary allowances or services at all; and, when a cultivator has any work to be done by one of the class, he pays for it in grain or cash. In many villages too the proprietor will not now allow the chamar to have the skins, as the price of leather has risen very ligh in late years; and money is to be made out of them. प्राच्याच्या स्ट्राची

B.-Live Stock.

129. From what has been written in Chapter I as to the absence of grazing ground, it may be inferred that the district is not adapted for eattle-breeding. The District Returns of Live Stock for the last year show the following details:—

Cows, bullocks and	buffalocs	• •••	• • •	270,238
Horses and ponies			•••	1,815
Donkeys	• • •	***	••	7,430
Slicep and goats	•••	•••	•••	68,505
Camels			•••	1,811

We had an enumeration made by the patwaris in 1879, which gave the following results:—

Draught cattle (bu	ffaloes a	and bullocks)	•••	137,665
Milch kine	• • •	•••		108,851
Young stock	•••	•••	•••	96,983
Horses and ponies	•••	444		3,155
Sheep and goats	•••	•••		50,408
Camels				1.849

The cattle in the towns did not come into our enumeration; and for these we ought to add about 18,000 to the mileh kine and a good deal to the sheep and goats. I fear that I cannot claim very much accuracy for our figures.; but they are probably not far out. The District Returns are an estimate by the tahsildárs.

Bullocks are universally used for agricultural work; and he must be a very poor man who can only Draught and plough catafford a buffalo, this animal being considered sign of poverty in a cultivator. the bullocks are either bred in the villages, or imported from the cattlehreeding tracts to the south, Hansi &c.; being brought up in droves by dealers who go from village to village, generally a few weeks before the Baisakhi and Diwali Fairs, on their way to Amritsar. There are no eattle fairs in this district. It is difficult to determine exactly what proportion of the cattle used in agriculture are bred in the district; but I believe that between three-fourths and half of those in Samrale are imported. In Jagraon there is still some grazing land left, and the greater part of the cattle in use are probably bred in the tabell; hut there are also large purchases from dealers. The people of the Jangal are very fond of buying cattle, using them for the few months during which agricultural operations go on, and then selling them, thus saving the keep for several months. The home-bred cattle are said to be better for the work than those imported because, apparently, the former are stall-fed all their lives; while the latter having been raised on grazing, feel the change, and cannot do well on the straw which they have to eat for a great part of the year. A bullock costs from Rs. 20 to 25, if two years old; and Rs. 40 to 60, if of full working age. At two years old he is yoked in the plough; and works in this till he is four, when he is put to the well. Bullocks go on working till twelve; but at that age they are old, and they do not live beyond fourteen or fifteen. In Samrála and the highly cultivated parts of Ludhiana they do not last so long on account of the constant hard work in the sugarcane mills and at the wells. Where (as in Jagraon) the people keep carts, the quality of the draught cattle is superior, and one sees some very fine bullocks in those parts, much higher prices being paid, and the animals being better looked after. In the Bet the cattle are of a very much inferior stamp, as they are only required for the plough. They cost Rs. 15 to 20 each, and are bought anywhere.

The area that can be worked by a pair of bullocks depends on a variety of circumstances. Thus in the Bét the cattle are very poor and cannot cover much land; and besides this a great part of the area in the upper Bét is cultivated twice every year. In the uplands it is the wells that make the difference, and, of course, the superior cultivation at them. In the Bét it appears from the returns that there is a pair of bullocks to every six or seven acres of cultivation; while in the eastern and highly cultivated uplands the average is eight or ten acres; and in jangal it is about seventeen to a yoke. The following are the details for some of the assessment circles:—

CIRCLE.			No. of cattle (plough and well).	Area culti- vated.	Average per bullock.	Per cent of irrigation.
Bét 'amrála			6,250	16,186	8	1
Bet I, Ludhiána		•••	6.332	21,237	3	6
Upper Dháia Samrála			25,680	107,750	4	42
Do, Ludhiána			2∩,667	95,100	6	29
Pawádh Ludhiána			6,057	27,332	6	29
Jangal			7,264	69,208	8	,

In the months of Baisakh, Jet, Har (April-June) the cattle are fed on dry straw and grain, the new straw Food of draught cattle. of the rabbi coming in by the first of these months. This is the worst time for them, and the working cattle could not get on without the ser or two sers of grain that they get daily. In Sawan and Bhadon there is good grass in the waste, if any is left, and in the fields intended for the next rabbi, where it is allowed to grow till the time of the Sawan ploughing. The cattle are grazed on this, and it is also grubbed up and given to them in the stall, the grain being stopped. Cutting grass is the work in Jat villages of the women, who are out all day in the fields, collecting bundles. The cattle have very light work in these two months, because the wells are not working; and between this and the new grass they put on condition. In Asso; and half of Katak (September to October) green fodder, either "charri" alone or mixed with "moth," &c., is given; and this is perhaps the best time of the whole year for the cattle. At the end of Katak the "charri," &c., is cut and stored; and during Magar, Poh, Mágh, and Phágun the dry stalks of charri, maize, &c., are given, and, if necessary, straw. The straw is either white ("safed bhusa") that of barley and wheat, or "missa," i. e., of moth, mash, &c., coloured straw. The latter, especially the moth straw, is said to be very strengthening. In the month of Chet (March) patches of green fodder are grown at the wells, either "metha," "senji," &c., of carrots; and green wheat or barley is also given, but not commonly in an ordinary year.

132. The number of mileh cattle is not more than sufficient to supply local wants. There is no attempt to keep cows specially for the sale of milk or of "ghi"

except in a few Gujar villages mostly close under Ludhiána; and in these the milk is generally bought up by people from the city. Our enumeration would show a cow to every five or six of the population. In the Bét buffaloes and cows are generally kept; and in the Dháia, cows. The milk is boiled and churned in the usual manner in a "chátti" of earthenware by means of a wooden staff ("madháni") twirled round in the hands or by a string. The people of the house use the butter-milk ("lassi"), which forms a very important part of the cultivator's daily food; but the "ghi" is generally sold or kept for the occasion of a marriage, &c. The whole supply is not, however, more than sufficient for the consumption of the better classes in the villages and in the towns.

183. A good deal of loss is caused annually by cattle-disease, and attempts are being made to disseminate Loss of cattle by disease. information on the subject. The names given Insufficient food : Drought. by the people are so various; and their accounts of the causes often so fanciful, that it is not easy to identify the different diseases that prevail. Great mortality occurs from overwork and insufficient food, especially in a year of drought. In the eastern parts of the district nearly the whole of the kharif unirrigated crop is grown for fodder; and a failure of the autumn rains means that the cattle will get no grass or green "charri" in the autumn, and no dry "charri" in the months of the cold weather; while they are at the same time deprived of their usual rest of two or three months, and have constant work at the wells. It is not possible that cattle should go all the year round on dry straw and grain. The first effect of drought is to reduce the condition of the cattle, and to render them very liable to the ordinary ailments, if they do not actually die of overwork and starvation. There was a considerable loss in this way in 1861 and 1868 (see paragraphs 123 and 124), but not in any other year since the regular Settlement, as far as I can discover. Besides being sadly over-worked and ofter insufficiently fed, the cattle in the eastern villages are very badly housed. They are taken home juside the village, and peuned up in houses a few feet square, while their masters are enjoying the fresh air on the roof of the house. In the western parts they have much better accommodation, and get pleuty of fresh air.

"Sirak" and "bawa" are terms used to denote any form of epidemic disease; also "marri". I can identify only two true epidemic diseases amongst cattle, of which the first appears to be either anthrax fever or malignant sorethroat. It is called "gal gotu," and is very deadly in its effects, and also most infectious, attacking buffaloes and bullocks alike. The affected beast gives up its food, and a swelling forms on the throat. This appears to burst internally, and the majority of animals affected die the day after the appearance of the first symptoms. No attempt is made at a cure; but it is said that, if purging sets in the second day, the animal will recover, nuless it dies of enhantion in ten or fifteen days. The disease is always present somewhere in the district,

and when a village becomes infected, it will lose fifty to hundred cattle in a few days. Recoveries are rare. No attempt is ever made to prevent the spread of the disease by isolation, burying carcases, &c. It is said to be carried from one village to another by carrion-eating birds, storks in particular.

Foot and mouth disease is called "monkhar" or "morkhur"

Foot and mouth disease. It is never very deadly; but the cattle affected are useless for a long time. It appears to be very infectious, and crops up here and there almost every year. The first object to which attention should be directed is obviously the prevention of the spread of these epidemics from village to village and inside of villages; and it will, of course, be very difficult to induce the people to do anything for themselves in the matter.

Of the ordinary ailments, "ogu" appears to be epilepsy, or paralysis, the beast affected generally falling ailments of down and dying in a short time. "Tilla' and cattle. "hallu" are the effect of cold, and attack buffaloes only, the symptom being difficulty of respiration. "Mokh" is purging in any disease. I do not know that rinderpest is amongst the diseases which attack the cattle of the district; but the whole subject requires more study than I have been able to give it. Cattle are often lost by over-feeding with "methe" or other green fodder after having had poor food for some months. When there is a break in the raine, and the "charri" is stunted (called "sokha") cattle getting into the field and grazing, full down and die. This is called "paths lag gays," and is apparently choking. I have consulted in writing this paragraph "The more deadly forms of cattle-disease in India," and also Dr. Rahím Khán's book.

The people of the Dhaia are not fond of keeping horses, 134. considering them a useless expense. The dis-Horses. tances are generally short, and the people prefer walking. Of the lambardars even it is only one in a hundred who owns any sort of an animal, or has ever been on one. Our erumeration shows about three horses or ponies to each village. In the Bét, where there is a little grazing, the Mahomedans have a few weedy ponies; but these are of a very poor breed. In the villages to the south-west of the Jagraon tahsil (Manoke, &c.,) there appears to be something like a better breed of horses; but these belong to the better classes, and there are after all very few of them. Government stallions are kept at Liminiaua (2), and at Jagraon (1). In one or two of the villages to the south-west of Ludhiana the proprietors are engaged in the horse trade (Burj Latan, Alike, Dhingar, &c.) They buy young animals all over the country, feed them up for two years, and sell them at Batesar and other fairs across the Jamua. This trade is not of any importance.

135. Camels are kept by the people of most of the Jangal villages, and by those of a good many others scattered over the district, where it has become

the custom to do so. It is very common for an enterprising zemindár to purchase two or three camels with any savings that he has, and to start in the carrying trade. The Juts are very fond of turning an honest penny in this way; and, where carts will not work as in the Jangal villages, camels are used for bringing up the grain to market. The Cabul campaign of 1878 is said to have nearly cleared the district out of camels. I know of one large village in the Jangal in which there were formerly a good many; but when I visited it in 1880 there was not a single one left; and, what was worse, the people said they did not intend to keep any more. Since then compensation has been paid; but I doubt if confidence has been restored, and I am afraid that, if Government should again have need of camels, it will not get many from this district. Compensation to be effective ought to follow immediately after a loss, for the ordinary rate of interest or profit that a zemindár expects is 25 per cent. per annum.

Sheep and goats, and in number. They are kept in every village, the goats for their milk, and the sheep for their wool. They belong to no special class of the community, and require no separate mention here. Donkeys and mules are used by kumhars or brick-makers. There are very few pigs. Fowls are not to be found except, in Mahomedan villages, and there they belong to low caste people, generally chuhras. There are ducks and geese in many villages along the Budha, and a large number are reared in the old "chaoni" or former military bazaar. These find their way to Kasauli and Simla, and there is rather a busy trade in them.

C.—Trade and Commerce.

লবেদাৰ ব্ৰব

The rural population of the district is not engaged in any particular manufacture or industry. Industries and manufac menial classes and artizans of the villages make sufficient clothes, shoes, earthen dishes, &c., for the use of the cultivators. Weaving is always done for wages, the wool or cotton being supplied to the weaver, who gets paid for his Coarse (cloth "khaddar," &c.,) sometimes finds its way into Ludhiána from the villages, but there may be said to be no separate weaving industry out of the city. In a few villages local artizans have established a reputation for some special manufacture, such as Lialton and Sahna, for dishes of brass and "káshi" ware; Raháwan, for locks and other iron-work, and also for stamping clothes; Samrála and Dherru, for irou-work. The towns of Machiwarah and Bahlolpur are famous for their "susi" cloth, and the General statement former also for its jewelry. The District trades and industries. Returns of industries give us the following

details :-

1		3	3	•	5	6	7	8	9
		Bilk.	Cotton.	Wool.	Other Fibres.	Paper.	Wood.	Iron.	Brass.
Number of mills and larg	···					(Jail)			
Number of private looms Works	te looms or small		(400) 4/156	(500) 2233	(85) 159	•••	(200) 2445	(80) 1508	(23)
Number of workmen i	n large		A			74			
Ditto ditto small	4	3	4,098	2,132	159		2,445	2,008	44
		}	1					J	1
		1			!!		18	17	18
	Build-	Dyers do.	13 Leather	13 Pottery åc	Oil pressing	15 Pash.	16 Carpets.	Jewelry.	Othe
Number of mills and large manufacture	10 Build-	Dyers"	13 Jeather	13 Pottery	14 0il	15 Pash.			
manufacture	Build- ing.	Dyers &c.	Leather	Pottery åe	Oil pressing	Pash. mins.	Carpets.	Jewelry.	Othe manu-factures
Number of private leams	10 Building (200)	Dyers &c.	13 Leather (200)	Pottery &c	Oil pressing	18 Pash. min*.	Carpets.	Jewelry.	Othe manu- factures

I have entered in brackets in each column the number of the works that belong to Ludhiána city. The greater part of these entries are of the village weavers and artizans, (takhán, lohár, kumhár, mochi, &c.) The manufactures of Ludhiána I have reserved for notice in the account of that town.

138. The principal manufactures for export are the "gur" and "shakar" (raw sugar) made by the cultivators everywhere in the Dháia from the sugarcane; the "khaud" or "bura" refined, made at Máchiwárah and in its neighbourhood, and the cloths of Ludhiáua. I have already in paragraph 112 given an account of the manuer in which the cane juice is boiled into "gur" or ráb; and for further details I would refer to the separate note on sugarcane, which appears as an appendix to this report. This boiling is rather a part of the cultivation of the cane than a separate manufacture; but the process by which the ráb is turned into "bura" and "khand" is the work of a separate class. An account of the "khánchi" or press in which the "ráb" is strained and refined, and of the process and various products, will be found in para. 8 of the note referred to. There are about 70 "khánchis" in

Máchiwárah, and 30 more scattered over the Bét belonging mostly to Khatris, but also to Bánias, Suds and even Jats. The outturn of each press I have estimated at upwards of Rs. 2,000 value in sugar (bura, khaud) and treacle (sirah); and in a good year for the trade, when sugar is dear, the contents of a "khánchi" may be worth Rs. 3,000.

It is not easy to write of the trade of the district apart from that of the country about; but the Course and nature of the course that it takes is roughly as follows. trade of the district. The surplus produce of the western villages, consisting of gram (alone or mixed with barley or wheat) and the antumn millets and pulses, is brought up to the line of reilway for export from the district, or finds its way into the eastern villages for consumption there. Very little of the "gur" produced in the eastern parts is consumed in them; and most of it is bought up on the spot by trading Jats from the Jangal or Malwah country, and taken away in carts or on camels, none of it going by rail. There is no demand for it from the direction either of Lahore or of Calcutta, as those parts have their own supply. The sugar ("hurn" and "khand") of Machiwarah and its neighbourhood is bought up on the spot in the same way as the "gur;" or is brought to the railway at Ludhiana, and finds its way northward, as it is not made beyond the Bias and is in great demand with the sweetment makers of Amritsar, Lahore, Multan, &c. There is a very considerable import of sugar, both "gnr" and "khand," from the Jullundur Doah also, especially into the Jagraon tubul from the neighbourhood of Nakodar. Most of the cotton of the eastern parts is also exported; but does not generally take the railway on account of bad packing and consequent high rates of carriage. It is either taken back by the trading Jats in their carts, or carried by merchants in hired ones to Ferozepur, whence it goes down the Satlej in hoats. There is also an export of wheat from the eastern villages, the cultivators living on the inferior grains, some of which (maize, masar, &c.) are produced in the tahsil; but there is also a considerable import of gram, pulses, &c., from the west to supply the place of the wheat. The principal imports into the district are English piecegoods and iron from the south, and salt from the north. These come first to Ludhiana, and thence find their way over the country to the south and west of the railway. There is also an import trade in brass dishes. The "pashm" trade will be referred to in the notice of the towu of Ludhrána.

Trading classes.

Jats, who bring the grain in their own carts, and dispose of it themselves either at Ludhiána to the regular grain merchants, or in the villages. A Jat would not part with his grain on the spot, even if it were the custom for the merchants to go about the country, for he expects to get a better price at Ludhiánn; and his cattle would be idle if he did not employ them in carrying. The return trade of sugar, cotton, &c., is carried by the carta that bring the grain, for these seldom go back empty; and

in such transactions the regular merchant has no share at all. I have explained elsewhere that the Jats of the unirrigated tracts to the south-west had a great deal of spare time, which they devoted to trade; but that those of the east were tied down to their villages. Nearly all the "gur" and "shakar" sold in the district is bought up by the trading Jats from the cultivators. The trade in the finer sugar products (khand and bura) made in Machiwarah and its neighbourhood, is entirely in the hands of the mercantile classes. A cultivator from Samrala tabsil may make an expedition for three or four days with his cart in search or grain when prices rise; but he cannot get fur, as his crops would suffer. The cotton is either sold to some Jat who visits the village, or is bought up by the petty local traders who keep it till the regular dealers come round, as they generally do to the larger towns and villages once a year. The grain on coming to Ludhiána is purchased from the Jats by the regular grain merchants, mostly men who have come as representatives of firms in Della, Muzaffurnagar, Meerut, Saharanpur, &c. There is also a considerable proportion of residents engaged in the trade.

141. The district returns show 11,650 carts belonging to people of the district; but I think that this includes the ordinary carts used for agriculture. We have entered in the village note books the number of carts "working for hire," that is those going to Ludhiana and beyond it with loads of grain, &c., ("dasawarwala"); and the total of these entries is 5,564 distributed as follows:

Samrála		***	310
Ludhiána		***	2,881
Jagráon	100 . 100	•••	2,373

This return is probably not far out. It will be observed that there are very few in Samrala; and those of Ludhiana all come from the south-west. The "dasawar" or trading cart is a development of the ordinary field cart. I am told that twenty or thirty years ago, when the carrying trade was in its infancy, carts of the size now generally used were almost unknown. When the people began to make trading expeditions they fixed to their carts a wooden frame, wider at the top than below; and lined this with the old stalks of the sugarcane, cotton twigs, cloth, &c. But an ordinary cart of this sort, drawn by two or three bullocks, could only carry fifteen maunds (packs) of grain; and it was not long before the advantage of widening and lengthening the carts was seen; and they are now, at least most of those that come from the west, of a very superior pattern, drawn generally by five bullocks, and capable of carrying forty to fifty maunds of grain. The frame work of the sides is very strong, and lined with "tat" (called "tapar") or matting made of "sau." Over the top is kept a thatch of "muni" reeds; or, if the owner can afford it, a thick carpet of wool, called "khar," woven for the purpose. The latter is a perfect, and

the former a partial protection from the rain. A first class cart will cost with all its appliances Rs. 100; and five bullocks, Rs. 250 to 800. Of course there are still a great many carts working which are not of Along the metalled roads the carts go easily, and they the first class. can cover 20 miles, or two stages in 24 hours; but they have generally considerable distances along ordinary district roads before these are reached, and it requires at least the five bullocks to drag them even slowly through these. Ou the Ferozepur road one or two of the bullocks are generally to be seen tied up behind as a reserve. The heaviest loads come from the Ferozepur district (Moga and Zira), as the country to the south of Raikot is so very sandy that not more thau about 30 maunds can be brought up to this place. A metalled road from Raikot to Sahna would be a great benefit; and I hope that some day arrangements may be made with the chiefs through whose territories it would ruu.* The Jat cartmen either devote the whole of their time to carrying or only what they can spare from sgriculture, which are the busy months of the grain trade. In the former case, the cartman is either a member of a family who have a joint holding, or he mortgages his land to another cultivator, getting a lump sum down for the use of it, which he is always able to repay. The grain carried almost invariably belongs to the man who owns and drives the cart, for the Jats will not work for hire, or carry for dealers. The cart is filled partly with the grain grown in the holding to which the cart belongs, and the load is made up by purchase in the village, or in others about.

Camels come direct to Ludhiána from the Jangal villages by the unmetalled roads, carrying grain; and return with "gur," salt, &c. They are useful where the roads are particularly sandy, and only a small load could be brought on a cart. A camel load is about six to eight manuals. Donkeys are used for bringing grain, "gur," &c., from short distances into Ludhiána, eight or ten miles. A donkey carries

11 to 2 maunds.

142. It is impossible to give any accurate estimate of the extent of trade of this district. The Lu-Extent of the trude. dhiana railway station is the centre of trade for a very large tract of country, embracing most of the Ferozepur district, and a great part of the territory of the protected states; and any attempt to determine how much of the grain trade coming along the Ferozepur and Kotla roads belonged to this district would be mere guess work. The cottou from the east also for the most part comes from Amballa district, the centres of the trade being Koráli and Morinda; but Samrala tabsil contributes something. The number of carts coming in this direction is never very large, the busy time being February to Murch. Ou the other hand the press of traffic on the Ferozepur road is sometimes tremendous. It is pretty coustant, the slack months being July-September, when the bullocks are generally seut out to graze; and the busiest, May-July, when those

Perhaps the boundary road of the Bhatinda branch of the Canal, when thrown open to the public, will supply the want.

who engage in trade in addition to agriculture are all ou the road, and the granaries are all open. In May and June the road from Dákha to Ludhiána is one long line of carts. Information is available as to the amount of grain that enters the municipal limits of the town of Ludhiana, which embrace the railway station, and also as to the amount that takes the rail at this place; but it is not possible to collect any as to the trade between the Jats of the west and the cultivators of the eastern villages. The carts of the former straggle into the villages in great numbers, the owners sell their grain where they can, and then collect loads of "gnr," cotton, san, kikar and other wood for rafters, anything that will sell down in their own country. The carts never return empty. In disposing of their grain they may first try Ludhiana; and, if not successful there in getting a good price, go on to the villages, and even find their way into the hills sometimes. Much might be written on the subject of the wheat and other grain trade; but I fear that it would unnecessarily lengthen this report to do so, and separate inquiries are being made in the matter.

143. I must reserve for the second part of this report an account of the variation in prices of agricultural staples, the value of land, and rents, subjects which might find a place here.

A simple money wage is paid only in Ludhiana and the other Wages of labour in the towns. In Ludhiana masons and black, smiths earn, if paid by the day, Rs. 10 towns. to 12 a month; and carpenters a little Artisans. The rates are slightly lower in Jagraon, more, Rs. 12 to 15. Raikot, &c. A common coolie carrying bricks, mud, &c., is paid 21 to 3 aunas a day (Rs. 5 a month) Coolies. everywhere. There is usually a good deal of work for coolies in carrying grain from the serais, "mandis," &c., to the station. This is ordinarily done in hand carts worked by a few coolies together ("reri"). In the busy times of the trade four or five annas a day may be earned in this way, the payment being by weight. A number of men of the same class earn their living by grubbing grass in the neighbourhood and selling it in the city. These coolies are of all classes, agriculturists (Jats and Gujars) who have been driven to the work by the scarcity of the land, village menials, Kashmiris of the city, &c. As there are only single looms and Weavers. no factories, wages for weaving are almost un-An apprentice gets his food and Rs. 1 to 2 a month from his known. A weaver will earn not more than two annus to three annas a day, purchasing his own material, and selling the piece when ready.

In the villages carpenters and masons, if employed by the day, get their food and four or five annas. Labourers at reaping time receive a bundle of crop as their wage; but it is seldom that such men are employed. An account has already been given of the manner in which the village servants are

paid by the harvest. A coolie doing any old job, such as plastering a house, gets his food and one to one and-a-half annas for the day's work. Weavers are given the raw materials, and tre paid by the piece.

144. The unit of cloth measure is the "girah," the width of the first three fingers, sixteen girahs going to the and capacity.

The "gaz" is two-cubits ("háth"), i.e., twice he length from the elbow to the points of the fingers.

The scale for weight is as follows:-

87 paisa muneuri=1 seer katcha.
40 seers katcha=1 maund katcha.

The "mansuri paisa" is the old copper coinage of the country. The "katcha" scale is used everywhere; and the whole of the graft trade is done in it, even in the shops of Ludhiána, no other being used. The katcha maund is at Ludhiána 17 of our standard seers. It varies slightly through the district, this being a remnant of Sikh times when every ruler had his own weight. A Jagráon maund is about four seers (katcha) less than that of Ludhiána; and one of Pakhowál something smaller still. Weighing is generally done with a ten seer (katcha) weight, called "dasérah," which has a Government stamp on it. Almost every agriculturist has a weighing balance ("takri") of his own. A "máp" or earthenware vessel is used in the field for finding out roughly the amount of grain; but, in selling, the balance and weights are always used. Milk is sold and bought by the seer; but it is generally measured in a "gadwa" or brass vessel of known capacity. Oil is also sold by weight, and it may be said that measures of capacity do not exist.

The measure of area has been the subject of much inquiry, and of a good deal of correspondence. Measures of area. The Emperor Akbar fixed one standard bigah for the whole empire, viz., a square of which The Bigali of Akhar. each side was a chain. The chain was 20 "ghattas," each ghatta being 3 " Iláhi gaz." Thus 3 Iláhi gaz=1 ghatta, 20 ghattas=1 chain. The ghatta I do not find mentioned in the Ain Akbari, and 1-could not before account for it. The "Ilahi gaz" was Akbar's standard of linear measurement, and is somewhat less than ours, so that the "ghatta" is 23 of our yards. The Sikhs introduced their own land measures, of which mention will be made hereafter. The imperial higali was restored as the official standard in our settlement of the villages acquired in 1835, and in the whole district in 1850: but the people have not adopted it. They know it very well, but they say that it hears a certain relation to the local measure. There is no connection between the gaz or "ghatta" on which it is built, and

the pace on which the people always fall back. The ancient measures of the country are the glumáo and the bigali Measures of the country. (katcha). The latter is the standard of Hindustan or the Cis-Sutlej country; and the former appears to be in use all over the Panjáb proper, and it has also partly spread in the Málwah. In the uplands of this district the glumão is used in the greater part of Jagraon and in the Jangal villages; and the bigah in the rest. In the Bet the ghumao prevails, except in a small piece of country about The Bet tract was all in the Jallandhar Doab at one time, and brought the Panjab measure with it when the river changed its course, the exception mentioned above being caused by Sudha Singh introducing the use of the higah in the new villages which he founded, so as to have one standard for the whole of his territory. It was not in the power of the rulers to make the people adopt a new measure; but they could fix the standard of that measure. The scale of the gliumáo is as follows:

- 3 Karams (double paces) each way=1 Mandla.
- 7 Mandlas=1 Kanai.
- 8 Kanále=1 Ghumáo.

But generally the glumáo is said to be four katcha bígalis. A katcha bígali is 20 karams each way. The karam, however, is a very varying quantity, and it was here that the difference came in. The rulers had constant necessity for using a measure either for the land on which cash rates were charged ("zabti"), or for "kankut" (appraisement of the erop; and there were in every petty state some persons whose pacing was recognized as the Government standard. The "karam" would be fixed by the ruler at so many "chappas" or hand breadths (16 to 18); and the pacing was done to suit this. In the more highly cultivated eastern villages the "karam" was smaller and that of the "Kheri" iláqa, adjoining Ambálla, was recognized as 16 chappas; while in Jagráon the karam was 18 chappas. This difference of measures has remained in force, and the katcha bígah of Jagráon is about two-fifths; while that of Khéri is two-sevenths, or less, of the standard official bígah.

The scale of the Katcha bigáli is.

20 Karams × I Karam = 1 Katcha biswah. 20 , × 20 ... = 1 Katcha bigah.

I may say here that we have finally adopted for future use a katcha bigáh, ird the old pucka bígah, measured by a chain of 20 karame, the karam being 57 inches, and the chain 95 feet. This is a good average for the district, and fits into the old standard.

146. I have already (para. 4) given an account of the navigation, ferries, &c., of the Satlej. There appears to have been a considerable amount of trade

carried down the river in country boats; but the opening of the Railway in 1870 has completely stopped this. The Abohar branch of the Sirhind canal has been constructed for navigation between Rupar and Ferozephir, and boats will soon be started on it. It is not possible to say what use will be made of this for traffic.

The S. P. and Delhi Railway enters the district from Philour by a bridge over the Satlei; and runs Railway. through it to a distance of about 35 miles in a south-west direction. The principal stations are Ludhiána, Sahnewal and Khannah; and there are two or three smaller ones, either in this district or in adjoining territory. The first named of these is a very large and commodious one; and new goods sheds are being constantly erected. There are generally several hundred waggons waiting to be loaded; and in the busiest seasons trains are constantly leaving. The Sahnewal and Khannah stations pick up a fair amount of traffic at times; and the former is likely to increase in importance. A bazaar is springing up in the village. A branch line along the canal to Rupar was made by the Canal Department and has just been given over to the Railway Company for working. We have also in prospect a line from Ludhiana to Ferozepur.

The district is much better off than most in the way of metalled (kankar) roads. There are 125 Ronds, metalled. miles of them, the whole area of the district being only 13 square miles. The principal metalled roads are the Amballa and Lahore road (via Philour), and the Ferozepur road. These are under the P. W. Department and kept up by Government, while the District Committee maintains the others : (1) from Machiwarah vid Samrála to Ludhiána (26 miles); (2) from Ludhiána to Maler Kotla (so much as is in this district, 14 miles); (3) from Dakha on the Ferozepur road to Raikot (14 miles). It is also intended to connect Samrála and Khannah, which will give a metalled road between that station and Machiwarah. Part of the plan has already been carried out. The greatest amount of traffic is along the Ludhiana-Ferozepur road, which carries more than all the others together. Next in importance is the road to Maler Kotla, and the Raikot road is not much behind this. The Amballa road is now scarcely used for wheeled traffic; and along the Samrala road there is a fair amount.

The principal numetalled roads are: (1) the old road along the bigh bank, connecting Ludhiana with Ferozepur and with Rupar. This is now used by travellers only, as the sand is very deep and wheeled traffic is not possible. (2) There is katcha road from Machiwarah through Sahnewal and Pakhowal to Raikot and thence on to the Jangal. This is not much used. (3) A katcha road connects Samrala with Morindah. This joins the Kalka-Amballa road; but it is not much used, as carts go more easily the longer way by Amballa, the whole distance being metalled. (4) A katcha road rans through the Bét from Ludhiana to the

town of Ráhon in Jalandhar and another is the old road direct from Ludhiána to Ráikot. (5) The only road remaining to be mentioned is one from Ráikot through Bassian to Jagráon; and from thence to Sidhwan on the Dháia.

These roads are all maintained by the District Committee. They have been indicated on map No. I accompanying this report.

The Ferozepur and Ambélla roads are a good deal used 149. by troops marching in the cold weather, and Encamping grounds. there are encamping grounds at Jagraon, Dákha, Ludhiána, "Duráha-ki-Sarai" (in a slip of Patiála territory) and Khannah, with the usual sarni and supply house at each. There are several large private Sarais in Ludhiana city, and one built by a benevolent native in Jagraon. There is a fine old imperial Sarai within a few miles of Khannah and on the Ludhiana road. It is called Lashkari Khán's, and was built in the time of Aurangzeb; but it is quite out of place now, and never used. There is no traffic to speak of along the Amballa road on account of the railway; but the Jagraon and Dakka encamping grounds are always full of carts. ekkas, &c. There are also encamping grounds with supply house at Kohára and Samrála, on the Samrála road, which is now very rarely used by troops, but was formerly the high way to Simla and the hill stations from the Ludhiana cantonment,

There is a regular dale bungalow at Ludhiana (with a khausamah &c,), and this is very much used and rest by Europeans who are passing through from Bungalows houses. Ferozepur or have business here. There are district (or police) bungalows at Máchiwárah; at Kohárá and Samrála on the Kálka road; at Khanpuli and Sáhnewál on the Ambálla road; at Dahlon on the Maler Kotla, and at Dákha and Jagraon on the Ferozepur roads; but these are very poor (except that at Kohára), being in most cases the "hurj" or corner of the tabsil building or of a sarai. The old Residency House at Bassian, built in 1838, is still kept up with its gardens and grounds, which cover an area of 70 to 80 acres. Although a good part of the building has been pulled down, what is still left is too much to be kept in good repair. It is a pleasant place to spend a few days at, as the locality is one of the most healthy in the district. There are Public Works Department hungalows along the Ferozepur and Ambálla roads at Khannah, Pindori, (near Dákha) Jugráon, which have fair accommodation and are available for district officers. There are canal bungalows at distances of ten miles along the branches of the canals; but these are generally occupied by the officers of the Department or by subordinates. The position of the roads, encamping grounds, bungalows, &c., has been indicated on map No. I accompanying this report. The following is a statement of the recognized routes and stages with the accommodation &c. for travellers to be found on each :—

Route.	Halting place.	Number of miles.	Bemarks.
LAUORE TO AM- BALLA, GRAND TRUNK ROAD.	Duraha-ki sarai, Patiála terri- tory.	13 (From Ludhi- áns).	Encamping ground with supply houses, Road bungalow; also old Imperial serai, atill in use.
LAEOR BALLA, TRUNK	Khannah	26	As above, only the sarai is of our time and has a "burj" or room for Europeaus.
AKA 02.E-	Dákha	12	As at Khannah, but Road bungalow none mile further on.
LUDHIANA TO FEBORE- PUR.	Jagráon	23	As at Khannah, also Road bungalow one mile further on. Tahsil faces encamping ground.
LUDBIANA TO KALEA.	Kohára	12	Encamping ground (seldom used) and supply house with small sarai. Also a combined Police and District bungalow.
Lu	Samrála	20	As above. Also head quarters of Tabsil.

The first halt on the road to Lahore is at Philour in the Jalandhar district.

Postal arrangements &: also a Government bullock train, and a horse Postal arrangements &: dák for passengers, not very efficiently maintained by a contractor. There is a district dák carried by runners between Khannah and Machiwárah; Ludhiána and Dahlon; Jagráon and Ráikot. Towards Lahore and Amballa the post of course goes by rail. There is a Government telegraph office at Ludhiána, and Railway offices along the line.

CHAPTER V .- ADMINISTRATIVE AND FINANCIAL.

152. The executive and judicial staff at the head quarters of the Executive and judicial district consists at the present time of a deputy commissioner, a judicial assistant, a district superintendent of police, a civil surgeon, and three extra assistants (one being in charge of the Treasury), besides a tabsildár and munsiff.

From the time of the constitution of the district up to 1866 it was divided into four tabsils; Samrála (also called at one time Sarái Lashkari Khān), and agency: tabsils.

Ludhiána, Pakhowál and Jagráon; but in 1866 the Pakhowál tabsil was broken up, and a few villages added to Jagráon, while most of them were attached to Ludhiána. There are now three tabsils, of which one has its head-quarters at Ludhiána, and the others at Samrála and Jagráon, each with the regular staff of one tashildár, one nnib, one munsiff and their establishments. The following statement shows the respective sizes of the tabsils and the village revenue staff attached to them:—

Tansil.		Area in acres.	Revenue (khálsa and jagir).	Number of Patwáris.
Samrála	•••	184,584	308,586	83
Ludhiána	•••	434,039	511,802	138
Jagráon	•••	263,539	271,657	79
TOTAL	•••	882,167	1,092,045	300

The kanungo agency for the supervision of the patwaris consists at present of one sadar kanungo, and one Kánungo agency attached kanungo and naib for each talisil; but this to tabells. staff is likely soon to be strengthened. The a larger revenue than nearly half of the districts in the province, and from a glance Ludbiána tahsil has Size of Ludhiana tabsil; at the map it would appear as if the grouping Jagirdar Magistrates. of the villages was very awkward, those of the Jangal lying much nearer to Jagraon than to Ludhiana. But the whole of the Maloud pargana, which includes the villages about Maloud and also the detached ones referred to above, is, with the exception of two or three assigned to other jagirdars, held in jagir

the foundation ought to be the natural features of the country (which have been used for our assessment circles), and the purganas should be as far as possible of uniform size.

153. The following is a statement of the civil and revenue litigacivil litigation.

CIVIL CASES DECIDED BY				REVENUE	Caszs Drci	DKD BY	
District Courts.	Tabsildárs	Munsifs.	Unpaid Courts.	Total	District Courts.	ľaheild á re.	Total.
752	537	7,280	358	9,106	618	673	1.293

I give no later figures because settlement operations have been going for the last five years. Compared with the adjoining districts of Hoshiarpur and Jalandhar this cannot be called very litigions.

The above statement gives an average of one civil case per annum to every 68 people; but, considering the extent to which joint interests in property prevail in this country, and the number of parties that may be concerned in a single case, a comparison between this proportion and that given by the returns, at all events of European countries, would be misleading. The number of legal practitioners settled in the district is steadily increasing, and these are retained by the parties in most cases of any importance. I have already noticed the litigious spirit of the Awans and Hindu Jats. The Jat villagers of the Jagraon tabasil in particular are always ready to rush into our courts; and, once a case has been started, it is fought out to the bitter end. It is generally a point of honour with them to take their cases up to the highest court of appeal that they can; and very large sums of money are spent in disputes where the value of the property is really trifling.

Criminal case work of the district is thus disposed of by the various officials and others exercising magisterial powers (figures for 1878):—

District courts Tabsildárs	•••	•••	•••	1,266 686
Unpaid Tribunals	•••	•••	•••	800
Total		•••		2.752

I have already referred to the powers of the Maloud and Bágrian Sardárs. There are two honorary magistrates in Ludhiána, Shahzáda Nádir, son of Sháa Shujaul Mulk, and Ahsan Sháh, a merchant, the former of whom has jurisdiction throughout the tahsíl, and the latter

in the city. Ont of 800 cases above, the Shahzada decided 608, mostly petty of course. There are no other honorary magistrates.

Police.

155. The regular police force of the district is composed of:—

District Superintendent.	Inspectors.	Deputy Inspectors.	Sergeants.	Constables,
1	2 '	11	57	457

There are ten "thánas" or police stations-seven of the first-class at Ludhiána, Jagráon, Ráikot, Dahlon, Sáhnewál, Khannah, Máchiwárah; and three of the second class at Sahna, Dakha, Samrala (see Map No. I). Each station has a cartle-pound attached to it. There are police posts at intervals along the Ferozepur, Samrala and Amballa Roads; and the first of these is patrolled, as it was a favourite beat of the Haruis and other criminal tribes, who used to steal from passing carts, ekkas, &c. The police duties of the Ludhiana city are performed by the regular force; but in the other towns and in all villages, there are chokidars, one or more, according to the number of the population; while, in the case of some small villages, two or three are doubled up, and have one man appointed for them. The total number of this branch is 796. The clickulars are paid in the villages Rs. 36 per aunum, which is collected by a rate on the houses, and disbursed by the tahsildars. In the towns (except Bahlolpur) they get Rs. 4 a month; and jemadars, Rs. 6; and are paid from octroi.

Jail.

There is a district jail at Lindhiana, in which short-term convicts are confined. The average number of prisoners during the last year was 266, exclusive of persons detained in the lock-up and for debt.

I do not think that the people of the district have a predilection for any special form of crime, most Forms of crime; crimiof the serious offences coming under the heads nal tribes. of theft and burglary. The Gujars in the Bét do a good deal of cattle-lifting. The tribes registered as criminal are Hárnis, Gounemárs, Sánsis, Baorias, and punitive posts are maintained on their account in six viliages with a total strength of 24 men. These are now drawn from surrounding districts, with a view to having the habitual criminals known wherever they are likely to go. The depredations of these people are seldom carried on in their own district, and they usually go great distances in the Province and out of it in search of plunder, getting away from their villages in spite of all precautions, and although their absence is punished with imprisonment. The total number of these criminal classes by the police registers is 2,394, including men, women, and children, most being Hárnis. The Hárnis and Gounemárs were settled down under the Sikhs in six small villages of Jagraon and Ludhiana, where they own the land; and the others have now fixed residencies in a few villages; but it is evident that all four tribes were originally gipsies, foreign to the country, and that for generations they wandered about committing petty thefts, begging, and living as they could. It appears impossible to break them of their habits. Where confined to villages, they are a pest to their neighbours, and the crops adjoining their lands require constant watching. They are very poor cultivators themselves. The Hárnis possess a slang, of which the following words are specimens:—

```
Nakhár
              = theft.
                                          Poh
                                                            to bury.
Bhásri lagána = to commit burglary
                                          Chetra
                                                            rupees.
              = {any
                        Government
                                          Tilkin
                                                            shoes.
Khara
                   official.
                                          1)hotin
                                                      =
                                                            a woman.
                  a constable
                                          Táke
                                                            clothes.
Kutba
                   stranger.
                                          Kharot
                                                            a lock.
Katera
                  a Jat.
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Revenue and taxation: Provincial, from all sources. As the re-assessImperial and Provincial ment of land-revenue has come into operation
sources of income. from last Kharif harvest, I take the figures for
this and for all cesses on it by the rent-roll of 1883-84. The other
details are the actual realizations of the past year.

Land-revenue with tribute or commutation money on jágirs, and zaildárs allowance 9,24,231 Famine Insurance Fund. 🔭 🦠 23,000 ... Road, School and Dak Funds 27,605 License tax ... 18,485 Excise 48,501 ... Stamps 1,42,040 Registration ... 6,000 ... Ferries 30,795 Miscellaneous 10,643 Total, Imperial and Provincial, income ... 12,31,300

The commutation money paid by the jágirdárs (Rs. 19,366) was fixed shortly after annexation as an equivalent of the services which the petty chiefs were bound to render to the paramount power, furnishing levies, &c. It is generally at a rate of from 2 to 4 annas a rupee of the jágir revenue; but sometimes at the pay of so many horsemen or footnen. The whole subject will be noticed in greater detail in Part II. Under "Excise" the details are:— Rs.

 Spirits
 ...
 ...
 10,320

 Drugs
 ...
 ...
 38,181

Of the former, 952 was on European, and the rest on country spirits; while of the income from drugs, 35,320 is returned as from opium and preparations of opium. All the ferries of the Satlej within the three tabsils are managed by the officials of this district, and the receipts under this head are really for two districts. Under "Miscellaneous" have been included the receipts from all kinds of Government properties, the largest item being on account of the sale

of grass (sarkdnah, and also for grazing) along the roads and on the encamping grounds; also fees from entile-pounds &c., &c.

The District Fund income is Rs. 69,000 on the new assessment. It is administered by a committee, appointed Lucal taxation: District from amongst the leading members of the funda agricultural community in the method followed before the passing of the Local Boards Act; and the expenditure is on the usual objects. Some sixty miles of metalled roads have to be maintained from this source, and the expenditure on them is one of the heaviest items; but the nature of the country is not such as to render necessary any other great undertakings in the way of public works, and the test of the funds are available for such purposes as education. sanitation, &c. The Municipal Committees, of which there are six, will be noticed separately under the towns which they represent. The total octroi income on the average of the Octroi. last seven years is Rs. 74,070, and of the last

The income of the jagirdars, exclusive of the tribute is,

Total taxation.

Rs. 1,58,237 and Rs. 1,19,206 are raised for the
payment of village officials (lambardars,
patwaris and chokidars). The total of all these items is Rs. 16,69,807,
levied in a district with a population of 6,18,335, giving Rs. 2-11 per
head of the population. It is not meant that the whole of this taxation
falls eventually on the people of the district; and there are other forms
of indirect taxation, such as the salt duty, which do not come into the
account.

159. I have already given (in paragraph 84) an account of the educational Medical.

Educational Medical.

Municipalities will be mentioned later in the account of each town.

There is a civil surgeou at Ludhiaua, with a native assistant in charge of the dispensary and of other work. There are branch dispensaries at Jagraon and at Machiwarah, supported from Municipal funds; and native hakims are paid in Raikot and Khannah.

The following are details for the last year about the dispensaries:

NAME OF DISPRESARY.		Cost of mainten-		UMBRE OF PATIENTS TREATED DURING THE YEAR.		
MARK OF DISPERSIES.		ance.	In-door.	Out-door.		
Ludhiána	•••	Rs. 6,450	562	23,368		
Jagráon	•••	2,255	149	8,414		
Máchiwárah	•••	2,043	154	7,567		

- 160. Ludhiána is an ont-station in charge of the chaplain of

 Ecclesiastical.

 Amballa, who pays an occasional visit. The
 old cantonment church, a square, unsightly
 building is still standing, and was used till recently; but it has now
 been condemned, the roof being pronounced unsafe. The old cantonment cemetery is crowded with tombs of more or less hideous design,
 and is still used.
- Head-quarters of other departments. which at present covers the whole length of the main line and both branches (Abohar and Bhatinda) in this district is at Ludhiána. The whole canal is under a Superintending Engineer at Amballa. The Grand Trunk Road, and the district works along it are in charge of an Engineer at Amballa (Provincial works). The telegraph office is under the Superintendent of Telegraphs, Amballa; and the post offices under a Superintendent stationed at Ludhiána. The two forest plantations are under the Assistant Conservator at Philour.
 - Revenue.

 162. It is necessary that I should leave the whole subject of laud-revenue, and the fiscal history of the district to the second part of this report.
- 163. The fort at Ludhiána is garrisoned at present by a company of a native regiment from Jálandhar, under the command of a European officer. It is in the Amballa military division. There are a few volunteers, part of the Rupar Company of the Panjáb Regiment, and a rifle range.

सन्त्रमंब नग्रन

CHAPTER VI.—Towns.

Size of villages and towns is taken from the towns.

164. The following statement of the size of the villages and towns is taken from the Census Returns (1881).

Less than 200 inhabitants	200 to 500	500 to 1,000	1,090 to 2,090	2,000 to 3,000	3,000 to 5,000	6,000 to 10,000	10,000 to 15,000	to	20,000 to 50,000
· 44 0	318	243	119	81	4	9	>***	1	1

- 160. Ludhiána is an ont-station in charge of the chaplain of Amballa, who pays an occasional visit. The old cantonment church, a square, unsightly building is still standing, and was used till recently; but it has now been condemned, the roof being pronounced unsafe. The old cantonment cemetery is crowded with tomus of more or less hideous design, and is still used.
- Head-quarters of other which at present covers the whole length of the main line and both branches (Abohar and Bhatinda) in this district is at Ludhiána. The whole canal is under a Superintending Engineer at Amballa. The Grand Trunk Road, and the district works along it are in charge of an Engineer at Amballa (Provincial works). The telegraph office is under the Superintendent of Telegraphs, Amballa; and the post offices under a Superintendent stationed at Ludhiána. The two forest plantations are under the Assistant Conservator at Philour.
 - Revenue.

 162. It is necessary that I should leave the whole subject of laud-revenue, and the fiscal history of the district to the second part of this report.
- 163. The fort at Ludhiána is garrisoned at present by a company of a native regiment from Jálandhar, under the command of a European officer. It is in the Amballa military division. There are a few volunteers, part of the Rupar Company of the Panjáb Regiment, and a rifle range.

सन्प्रमंग नगर्ने

CHAPTER VI.-Towns.

5ize of villages and of the villages and towns is taken from the Census Returns (1881).

Less than 200 inhabitants	200 to 500	500 to 1,000	1,090 to 2,090	2,000 to 3,000	3,000 to 5,000	5,000 to 10,000	10,000 to 15,000	to	20,000 to 50,000
-640	318	243	119	81	4	9		1	1

165. The towns which have a Municipal Committee and octrol are--

Tows.					POPULATION.
Ludhiána			•••		44,163
Jagráon	•••		•••		16,873
Raikot	•••	•••	•••		9,219
Máchiwárah		•••			5,967
Khannah	•••		N 33	22:	3,988
Bahlolpur	•••			7/c/ 	2,842

Town of Ludhiána: position.

Satlej, and about six miles from the present course; and lies on the Sindh, Panjáb and Delhi Railway, and the Grand Trunk Road (Delhi to Lahore), the distance from Lahore being by these 116 miles. It is also connected with Perozepur by a metalled road of 72 miles length.

The town was founded in the time of the Lodi Emperors, on the site of a village called Mirhota, the date re-History under native corded being 898 Hijri (A. D. 1481). rule. founders were Yusaf Khan and Nihang Khan Lodis (see paragraph 22), or perhaps the latter alone; and there is no reason to doubt the generally accepted origin of the name "Lodiana," although this has been corrupted into the present form "Ludhi-The situation selected was a slight eminence on the south bank of the Satlej, commanding the passage of the river, on the high road from Central Asia to India. The history of the town is in a great measure that of the district, and will be found in Chapter II. Under the Lodis it was the seat of Government for this part of the Empire, and a large fort was built on the site of the present one by Jelal Khan, grand-son of Nihang Khan. The Mughals fixed the headquarters of the "Sirkar," or division of the Province ("Subah"), at Sirhind, and Ludhiana was only a "mahal" or district; but it did not lose its importance; and, to judge from what are said to have been the

^{* &}quot;Mahal" corresponded to our tabsil better than to any other subdivision.

boundaries of the Lodis' city, it must have had a population of 5,000 or 6,000. Neither did it suffer from the Duráui invasions, although, as already noticed, Nádir Sháh is said to have ordered a general massacre of the people. On the downfall of the Mughal Empire it passed quietly into the hands of the Rais about the year 1760 (see paragraphs 24 26 and 93); and under them enjoyed the same measure of prosperity as before. Rai Kalha improved the fort, and it was one of the "thánas" under the rule of this family. Máharája Ranjít Singh took it with the rest of the country from Ráni Bhág Bhari in 1806, and gave it to his nucle, Rája Bhág Singh of Jhínd. When Sir D. Ochterlony advanced to the Satlej in 1809, land was allotted to us for a cantonment to the west of the town; but we held nothing else till 1835,* when, on the death of Rája Sangat Singh, the town and country about became our own possessions. (See for details of the above sketch, paragraphs 22—31 of this report.)

When the town was transferred to us, it appears to have occupied the space between the fort History under our rule. and ridge over the lowlands (which latter was the boundary on two sides), and the present Bazar up to the Sabzmandi, and on from that the Hazuri The present Municipal Hall and the Tomb Roshant are situated outside the old limits on the west; but to the east of this the houses covered the whole of the unoccupied space between the Fort and the present town. I have been unable to find any record of the estimated population of that time. The old Imperial Road entered the town on the eastern side, where now the houses of the American mission settlement stand, and the Residency was also on this side; while the cantonments lay to the west, the present civil station being the remnants of them. Under Sir Claude Wade (1823-38) and his successors the town increased in size and importance, spreading out to the southwards. It became the centre of a very extensive trade in grain, sugar, cloth, &c., which found its way down the Saltej in boats from Philour. There had always been a small colony of eight or ten families of Kashmírí weavers in the city; but in the year 1833 A.D. a famine in Kashmir drove numbers of this class all over the country, and some 1,500 to 2,000 of them were settled in the town, and started in trade by the exertions of Sir C. Wade. In 1842, on our withdrawal from Cabul, the family of the Amir Shuja ul Mulk, with a numerous body of adherents and attendants came with us; and Ludhiána, then a frontier station, was fixed on as their residence. They at first took up their abode on the west side of the city; but soon after shifted to the south side, where the land on which their houses and gardens now stand was assigned to them. When after the Satlej campaign the Ludhiana district was formed, the civil offices were removed to the Cantonment side of the city; and in 1854-55 the Grand Trank Road was metalled and realigned to its present position. In 1854 the Cantonments were abandoned, a small force being retained as a garrison of the Fort; but this change does not appear to have much affected the town,

^{*} Although the town was not nominally ours till 1835 the Political Agents appear to have exercised paramount influence in it from the first, and many of the improvements effected in it before 1835.

† "Pir Abdul Qádir Jaláni" (see para, 64.)

which, with the improved communications, was becoming more important every year as a centre of trade. The events of the mutiny are related in para. 36. The houses of the city then came to within a short distance of the Fort; and, when the garrison mutinied, it was found to be in communication with the town people just outside of it, Sufis, Suds, Gujars, &c. Mr. Ricketts, on the departure of the mutineers, ordered the demolition of all the houses within a radius of 200 or 300 yards of the Fort, the inhabitants settling down where they could. The Gujars were removed to their lands below the city; the Sufis took up their abode in the vicinity of the Cautonment Bazar, where they newlive; and the Suds and others spread themselves over the city. The opening of the Railway from Delhi to Lahore in 1870 gave a great stimulus to the trade of Ludhiána; and a number of shops and saráis, were built along the Grand Trunk Road, facing the station.

The town is situated in an angle of the Ridge or High Bank. which to the east of it runs due north and south General description of the and then turns westward, forming the boundary on two sides. The houses are mostly built of masonry. In the old part, of which I have indicated the limits in the last paragraph, they rise storey over storey and are crowded together; while the streets and lanes are narrow and tortuous. But the new town to the south of the Chourn bazar bears all the marks of being modern. The streets. are wide and straight, and the houses and shops mostly of one pattern. The principal streets, the Choura Bazar and the Hazuri Sarak, were designed by Sir C. Wade himself; and one of his projects, the "Iobal Ganj," is a standing proof that he was rather too sangaine about the speedy development of the town for which he did so much. His successors, Assistant Agents and Deputy Commissioners, have each added something, e.g. the "Murray Ganj" (Captain Murray), "Ghalla Mandi" or grain market (Captain Larkius), and the "Kaisar Ganj" within the last two or three years. In the old parts of the town, such as the Naugarali square, the houses are many storeys high; but in the new

town they are generally of only one as yet, though some of the people along the Choura bazar have added a second. The old town was divided into "mahallas" according to tribes (Suds, Sufis, Saiads, &c.); but these have mostly been lost sight of. Attached to the city is a large area owned principally by Saiads, Gujars and Arnieus, most of whom reside within the town limits or in the old military bazar, and

Health end vital statistics.

Swamps along the Budha nála, one would expect malarious fever to prevail in the mouths following the rains. In some years, such as 1878, there has been a tremendous loss of life from this cause, the half starved Kashmíris and others of the lower classes not having sufficient stamina to resist the attacks of the disease. Between six and seven per cent. of the whole population died from fever alone in that year (1878); and the death-rate, which had averaged 33 in the preceding five years, rose to

111. But at other times the town cannot be said to be unhealthy, and there has been no epidemic of cholera since 1872. The sanitary arrangements are good for an Indian town, and the system of drainage appears to be now efficient. Inspection reports since 1878 speak well of the town, which was before considered to be very backward in this respect, the improvement being ascribed to the exertions of Mr. Wakefield, the present Deputy Commissioner. The supply of drinking water is from wells inside the town, the quality being apparently very bad on analysis; but it is said that it has evil effects only on new comers. The average death-rate does not compare unfavourably with that of most Panjáb towns. The following is a statement of the population in the different years in which a census has been taken:—

1854	1868	1875	1881
39,984	39,983	40,385	44,163

The increase in the last six years is probably due to immigration; but the floating population is always very large; and it is impossible to say what the changes actually have been. The present population is composed of the following elements:—

Hindus ... 12,969
Sikhs ... 1,077
Mahomedaus ... 29,045
Others ... 1,072

Trade and manufactures.

Trade and manufactures.

of merchants from down country; and the town cannot perhaps be said to have much connection with it. The returns of municipal taxation for last year give the following values of the various articles of trade which were taxed—

				Rs.
Grain		•••	• • •	25,79,568
Sugar pro	ducts	•••	•••	2,81,259
Cloth	•••	•••	•••	6,50,086
Iron	•••	•••	•••	24,304
Brass and	metal dishes	• • •		20,378
Others	•••	•••	•••	4,21,590
	T	otul	•••	37,83,185

Grain in transit is, at all events nominally, untaxed; that is if it does not change hands within octroi limits, which embrace the railway station and encamping ground. Wool, cotton and salt are also exempted. In the last of these there is a considerable trade. The following estimate is given of the value of the imports in these three articles:—

 Salt
 ...
 ...
 Rs. 80,000

 Pashm
 ...
 ...
 , 50,000

 Cotton
 ...
 ...
 , 30,000

Woollen weaving, "pash-mina." Shawa. "pash-mina" Shawa. "pash-mina" Shawa. "pash-mina" Shawa. "pash-mina" Shawa. "pashmina" shawa. "pashmi

and "Rampur chadars" &c. from Thibetan and Rampur wool, is at present entirely in the hands of the Kashmiri colony, although some of the country weavers are said to be picking it up. The raw material is of two classes, "pashm", or the fine wool of the thibetan goat; and " Rámpuri un", , or that of the nearer hills. The former is said to come from the "Barfani" country, which is rather indefinite geographically. Both wools are brought finally from Rampur, which appears to be the entrepot of the trade, by the "gaddis" or hill men. These men used to take the direct route via Rupar; but now generally reach Ludhiana from Amballa by rail. Within recent years (20 or 30), a third class of wool has begun to be imported from Kirman, in Persia, via Karáchi and Lahore; and this is used as a substitute for Rámpur wool. The wool from the hills is brought here in the months of October and November, and the annual amount of the sales is estimated at Rs. 50,000. The purchases are made, in the first instance, by Hindu merchants, who take large amounts of it, and retail them to a second class of traders, or to the Kashmiris. The wool is spun into thread by women of all classes, Hindu and Mahomedan, rich and poor; and any woman can earn from rupees three to four a month by this. The Kashmiri gets a few rupees worth of wool or thread from the merchant (" Mahajan") and weaves it into a " chadar" or piece six to eight yards long, and about one and a half yards wide (Kashiniri measure, see paragraph 144) The cloth is of two descriptions, pashmina and "ungli pashmina," the former entirely of pashin, and the latter a woof (baus) of pashin on a warp (taug) of Rampur wool, and sometimes of kirmani. It is known as "alwan," and is white in colour when it comes off the loom, but may be dyed red, green, &c., according to taste. The "chadurs" are purchased by well-to-do natives for wearing over the shoulders like an ordinary cloak, the piece being cut into two lengths of about three yards each, which are joined at the corners and worn double. The shawl industry ("sál báfi", or the weaving from pashin thread of "Cashmere" shawls was perhaps the most important branch of all; but it has never recovered from the complete stoppage of the trade in these articles on account of the Franco-Prussian war (1870.) It is said that there were unwards 1,000 Kashuiris engaged in it before that time, and an outturn of more than Rs. 1,00,000 worth of shawls; but France was the principal customer and has ceased to take any since 1870; and there are now not more than 100 looms (single), the rest of the weavers having turned their hands to what they could, many being reduced to beggary. There appears now to be no demand anywhere for good shawls. Native States used to take them for dresses of honour, &c.; but do not

^{*} The name pashmina is applied to all cloth made of pashm; and it is also called (more generally) almán; while the piece of about seven yards is called a chadar. Rámpur chadar is the name given by Europeans to chadars of fine quality, of pure pashmina, because, apparently, the article was first made at Rámpur.

now. The only shawl work at present done is in coarse wool, what we know as "jamewars." These are worn by natives over the shoulders and are exported towards Persia where they are said to be used for waist cloths, or are cut into strips for borders of "chogas," &c. little fine work is still done in making wide margins for cloaks, the centre piece being plain "alwan." The coarse work turned out is not worth an hundredth part of what the fine shawl work was, a piece of "jámewár" selling for a few rupees where a shawl would have sold for Rs. 200 to 300. An ordinary chadar of An ordinary chadar of pashmina costs Rs. 20 to 30, and of nagli pashmina Rs. 15 to 20. The looms are almost cutirely single, and not more than two or three men ever work together, unless where apprentices learn the art from a masterweaver. The district return (paragraph 137) gives 900 looms with 950 weavers, but Alisan Shah, who is the representative of the body of Kashmiris, gives an estimate of 400 looms with 1,300 men and boys, weavers and apprentices. The Kashmiri population of the district is returned in the recent Census as 2,492, but a large proportion of these are in service or have other occupations. The paslimina and Rampur chadars of Ludhiana sell all over India; and the value exported is estimated at 13 lakhs, but the industry is said to have earned a bad reputation in recent years owing to the mixture of the inferior Kirmáni wool. The pashmina is mostly bought up from the weavers by large merchants, either Hindus or Kashmiris. On the whole the pashmina industry appears to be on the decline, and Alean Shah says that the weavers are leaving the town, as the cloth is becoming a drug in the market. The Kashmiris also knit stockings, gloves, &c. There are a good many looms at which common country blankets are woven by "Mazbis" (Chúhras or Chamárs converted to Sikhism). The miscellaneous looms of all these sorts are returned as 400.

The other important industry of the town is in the hands of the country weavers (Juláhas), who make from Cotton. cotton the cloth known as "Indhiana cloth," and locally as "gabruu"; and also "Imngis" or turbans, "khes," "chadars," &c. The gabrun is of a checked or striped pattern, and is made in pieces of 15 to 20 yards length, and about a yard width. The "lungis" are of blue and other colours, and have embroidered ends, with or without gold thread. The gabrun is in great demand for making clothes for Europeans and well-to-do natives, and there is a large export of it in all directions. The "lungis" go principally in the direction of Lahore, and are much used by the frontier people as turbans. There is also some manufacture of table linen, the cloth known as "susi," and many others. The number of looms weaving cotton stuffs is returned in the district statement as 400, but a reliable estimate given to me fixes it at 900. The looms, as in the case of pashmina, are mostly single; but the estimate referred to sets down the number of weavers and apprentices at 1,700. The same loom may turn out in succession all sorts of cloth, according to the demand, gabrun, lungi,

Jamenár (which means "a collection of designs") is the term applied to all pattern work of this sort. Runal is an ordinary equare shawl, all of this work, while a Dochdia is a centre of pashmina with a wide border (palla) of pattern work.

khes, &c. The cotton industries are flourishing, and there is an increasing demand for all sorts of cloths woven at Ludhiána.

Embroidery on pashmina is done by the same Kashmiris who weave the cloth, and by their children.

The latter are generally put on this when first their instruction begins. The thread used is silk, and all sorts of designs are worked on the margins of the chadars, "chogas," "rumāls" (scarves), smoking-caps, &c. Embroidery work is also done on the "lungis" and on caps with gold thread by Kashmiris and by country weavers; and there are eight or ten shops where silk embroidery is worked on broad cloth for table covers, cushious, slippers, &c.*

Carpentry and miscellaneous.

Carpentry and miscellaneous.

Carpentry and miscellaneous.

Carpentry and miscellacarriages and carts on English models, chairs, tables, &c., are made. The leather and other industries are not of much importance.

Municipality and cotroi.

Municipality and cotroi.

The average income for the last seven years from octroi is 53,400. The increase during the last few years has been enormous:— Rs.

1876-77		 37,651
1877-78	1 1 1 1 1	 47,025
1878-79		 48,916
1879-80		 55,076
1880-81		 57,353
1881-82		 56,491
1882-83	***	 71.288

101 1110 11100) Car 11110 0001	a amanti	MO TONOMINE	HORUS:	Rŧ.
Octroi establishment		,,,		5,411
Police		•••		9,115
Education	•••	•••		5,865
Sanitation Establishment	•••	•••		13,926
Hospital		•••	***	3,051
Paving streets, making drains, &	}	•••	•	10,716
Miscellaneous	·	***	•••	5,491
		Total	•••	58,575

[&]quot;The embroidery is either "karcbobi" or "dori" and is worked with silk or gold thread on pashmina, merino, broad cloth, &c. In the first of these the cloth is stretched on a frame horizontally before the worker, and the work is coarser; while in "dori" embroidery the thread and the work are finer. A third sort of work is called "ari," and is done with an awl, very coarse. The industry is not confined to the Kashmirls by any means.

The principal educational institutions are the Government High School, with an attendance of 189 boys, Public institutions : Eduthe Primary Government School, 211; the estional **&o**. Mission School, 527; a Hindu nided School, There are only two regular printing presses, one belonging to the American Mission Society, which publishes a weekly journal called "Nur Afshan," and the "Dharm Sahaik" in connection with the Hindu school above mentioned. The principal public buildings and offices are the Municipal Hall, the Post Office, Dak Bungalow, Kotwali or Police Station, Talisil and Telegraph offices, Public Offices. which all lie near the entrance of the Choura Bazar, just outside the town to the west; and the Railway station. Across the railway line, which separates it from the city, at a distance of about quarter of a mile is the Civil Station. district office or Kachery, while beyond this lie the church, the cemetery, the few houses of the European district staff. To the north of the city the fort is situated ou a The fort. point of the ridge overlooking the lowlands. It is a square structure with a high mud wall and a deep ditch, the inside measuring about 100 yards, each way; and it owes its present form to Sir D. Ochterlony, who made use of the bricks found in the neighbouring rains of Sunet for building it. Streets of the city. The principal streets of the town are the Choura Bannar, which runs east and west the whole length of the town, the Bazásan, Pansári, Lucha and Lakar Bazára, Wade Ganj, Hazari Sarak : and the squares or market-places are the Ghalla Mandi, Kaiser Ganj, and others belonging to private persons. It is in these last squares, and market-places that most of the dealings in the grain trade inside the city go on. There is always a great deal of business in the Choura Bazar, where cloth, shoes, &c. are bawked about; and of an afternoon it is crowded with people along the whole length. There are two or three serais along the Grand Trunk Road, facing the railway station, in which grain is stored, those of Ali Mahomed of Jhajar, Kanahia Lal, &c. Ontside the city to the south lie the houses and gardens of Shahzada Shahpur, and the other refugees; and beside them is the Jail and Dispensary, while the Mission Settlement is situated further on, at the south-east corner.

Ludhiána is one of the most important of the American Mission Stations in the Panjáb. The following brief history of it is furnished by the Reverend E. M. Wherry. "Established in 1836 by the Reverend J. Newton and a colleague, the Reverend James Wilson; burnt down in 1845 by the Sikhs, and again destroyed by matineers in 1857. It publishes books and tracts mostly religious in Urdo, Hindi, Panjábi, Kashmiri, Sindhi, Thákari and English. Over five millions volumes have been printed since it began, and now the number averages about 250,000 annually. The 'Nui Afshán' newspaper is published since 1872, circulation 750 weekly." The settlement consists of three or four European.

and a number of native houses just outside the limits of the town, with a church, printing press, &c. There is another church at the west end of the Choura Bazaár beside the Kotwali, and a school building beside the Kaiser Ganj. In the printing press excellent work, typography and lithography is done; and there are also workshops attached to the Mission in which wood-work, binding (English), and other industries are carried on. Adjoining the Mission compound is the Native Christian Girls' School.

The principal places of interest have been mentioned in 173. the preceding paragraph. To the west of the railway and behind the district offices is a Objects of interest. "Rakh," or plantation, under the Forest Department. This is traversed by roads in all directions lined with ornamental gardening; and it also contains a very good zoological collection. The Rakh is a great place of resort as a drive for the Europeans and rich natives; but all classes of the town and country people frequent it, coming to look at the beasts and birds. On the last Saturday of every month there is a fair held in it, and this is attended by crowds of people. The old cantonment has completely disappeared, except such houses as have been kept for the European residents, and a few oraces close to the town, and the church and cemetery. The marks of the compounds are visible in places, but most of the land occupied by the old lines is now under cultivation. There are few antiquities in or around the city. The tomb of Pir Abdul Qidir Jalani has already been referred to (paragraph 64). This is in the open space to the south of the fort. There is also an old tomo in the Saiad's mehalla of one of their appeators, Saiad Ali "Fil Mast," to which is attached a grant of land, and several Hindu temples (Shivalas and Thakardwaras) of recent date. The mound of Sunet (paragraph 21) lies about three miles west of the town.

The second town in importance is Jagraon, which lies at a short distance to the south of the Ludhiana and Ferozepur Road, 24 miles west of the Jagraon : situation : goueral description. former. It is the head-quarters of the tabsil of the same name, and has a population of 16,873; but the greater part of this is made up by the auburbs, called "Agwars," which are really ordinary villages, each with a large area of land attached to it, and inhabited by the same classes as other villages. The town population proper is only 6,777, leaving 10,096 to the suburbs. In the town proper the houses are nearly all of masonry, and many of those belonging to the mercantile community are very fine buildings, several storeys high. Owing to the flatness of the surrounding country, the town can be seen from a great distance on all sides, and has a very imposing appearance. The streets are fairly straight and wide for a native town, and are well paved. The situation is most healthy, being well removed from the river; and the climate, though very bot at times, is dry and salubrious. The death rate of five years previous to 1878 was 38; but in that year the town suffered like others from fever. The population has increased by six per cent. since 1868.

175. The town is of no antiquity and the account given of its founding is this. The country about was lying History. waste when some 200 years ago under Rai Kalha, a Mahomedan faqir called Lape Shah, took up his residence on the site of the present town, and prophesied that a city would be built there, the streets of which he marked out as they now run. Rai Kalha called cultivators from all parts, Gujars, Araiens and Jats; and assigned them the lands round the site according to the number of each Tribe; and also settled a mercantile community, whose dwellings he enclosed with a wall, the agricultural populations settling down, each body in a site in their own land outside this city. These outlying sites were shut in with the usual hedges ("war"), hence the designation of the suburbs from "ag" (forward or outer) and "war." The town was called after a Rajput named Jigra, who exerted himself in promoting its growth; and who was probably the Rai's representative. A small tomb of Lape Shah stands in the centre of the city, and every Thursday there is a "mela" or celebration in his honour, in which Hindus and Mahomedans alike take part. About two miles north of Jagraon on the west of the Sidhwan road, is a mound of some dimensions called "Solah," marking the site of an old village in the place of which the Agwars and other neighbouring villages (Sherpur &c.) are said to have arisen. It was here that in 1802 (A. D.) the young Rai Alias met with his death in the hunting field. Under the Ranis who succeeded him Ahmed Gujar, the Thanadar or local representative of the family, tried to assert his independence; but was expelled with the assistance of Patiála. been related elsewhere how in 1806-8 Mánarájá Raujít Singh stripped the Bánis of their possessions; and the country about Jagraon passed into the hands of the Ahluwália (Kapurthala) chief, under whom the town became the head-quarters of the 'ilaqa' or territory, and the mud fort of the Rais was improved. The town came into our possession with the rest of the country in 1846 (see paragraphs 33 and 34), and the fort was demolished; but there are still remnants of the walls.

The town has a very considerable trade. There is a large colony of the mercantile class, mostly Khatris Trade and assnufactore. of the Beri, Lumba, Maria, Jaidke 'gots,' who have money-lending dealings with the villagers about; and a great deal of grain finds its way into the bazar in small amounts when the cultivator has not enough to make a journey to Ludhiana worth while. These driblets collect in the granaries of the trading classes, and are kept till they can be disposed of at a profit. It is estimated that there are now some 400,000 manuals (packa) of grain in the city. The merchants from Ludhiana go and lany up on the spot from the local traders, or the latter bring the grain to Ludhiana. The opening of a new line of railway with a good station at Jagraon is likely to divert much of the grain trade from Ludhiana. There is a very large sale of brass and copper dishes, and of cloth in the bazar; and it may be said that the whole country to the distance of 30 or 40 miles

south and west is supplied from here, the Jats coming very great distances to purchase. The chief transactions are in clothes of the better sort, such as are used on marriage and other festive occasions, gold embroidery, &c. The main street ('Chowk') is generally thronged with buvers, particularly at the marriage season (May-June); and it is no uncommon thing for a well to-do Jat to throw down Rs. 200 or 300 in hard cash in payment of a purchase of clothes. There are 15 or 20 shops of "Thatiars," or workers in brass, where the usual dishes are made from sheets of the metal; and there is also an import of readymade goods of this class from Delhi, Jagadhri, &c., for sale at the ordinary shops. The brass dishes made at Jagraon are famous throughout the country, and fetch high prices. There is also a considerable trade in iron. There are a few workers in ivory, who make hangles, small boxes, &c. The bangles of ivory are necessary in every Hindu marriage, hence the industry. There are also considerable dealings in gold, of which a great deal is now-a-days purchased by the Jate for bangles and other jewelry. The 'ashrafa' of Jagraon' have a great reputation for selling the metal pure.

Municipality and public institutions: objects of interest.

Jagraon is a Municipality of the third class. The average for the last seven years of the octroi income is 9.190, which is spent on the usual objects, Sanitation, Police, Education, &c. The tabeil buildings are on the Ferozepur Road, with

the encamping ground and sarai, about a mile from the town, but connected with it by a good metalled road. The Police station is inside the town in the building where the representative of the Ahluwalia chief used to reside. There is a Government Middle School, in which English and vernacular are taught; and two girls' schools, Hindu and Mahomedan, supported from Municipal Funds. The avernge attendance for last year was 279 boys and 68 girls. There is also a dispensary (see paragraph 159) maintained from the same source. The tomb of Lape Shah, the patron saint of the city, is a small erection, standing in one of the chief streets near the centre of the city. The family of Moulvi Rajab Ali (paragraph 92) have some fine houses, and also a garden with tombs and a mosque in it adjoining them. Beris, Lumbas, &c., have also some very fine edifices; and Devichan I Beri has erected for the accommodation of travellers a very fine sarai at great expense just outside the principal gate, that towards Ludhiana. The old wall of the city is in good repair, and there are two large packs tanks outside.

The town of Raikot is situated in the Jagraon tabsil, 24 178. miles, by a direct line to the south-west of Raikot. Ludhiána; and connected with it by a metalled road, a branch from that to Ferozepur which it leaves just beyond Dakha, about the 13th mile. Raikot has a population of 9,219; but is not a place of very great importance. Of the population about onehalf is agricultural, as there is a very large village area (nearly 8,000 acres) attached to it. This land was cultivated from of old, being divided between six villages; but 230 years ago Rai Ahmad, moving from Talwandi, the former seat of the family, made the place the headquarters of his territory, and called it Raikot. The scattered villages were collected into one town, and a commercial class assembled. The followers of the Rais would of themselves have been a large addition to the population of any place, as there must always have been a large army maintained. Raikot declined in importance on the overthrow of the Rais; but there is still a certain amount of local trade carried on by residents of the Khatri, Bhábra, &c., tribes. This is principally in grain from the villages to the south, the agriculturists taking in return clothes, brase dishes, salt, &c. The population has remained stationary during the last twelve years; and there are no signs that the place is developing, although the situation should give it the command of the trade from the Jangal, which at present goes straight through to good road opened towards Sahna would probably Ludhiána. make some difference. The average of octroi receipts for the last seven years is 2,787; and the Municipality is of the third class. The town bas, like Jagraon, a Middle School, in which English and Vernacular are taught, and a Police station, but no regular dispensary. The town is surrounded by a brick wall, ruinous in parts. The principal places of interest are the palaces of Rais, now in the possession of Imam Bakhsh, the adopted son of the last Raui, who resides here. These buildings are mostly dilapidated.

The town of Machiwara (tahail Samrala) lies on the 179. ridge over the Budha, 20 miles to the east of Máchiwára. Ludhiana on the old Rupar Road. A metalled road connects it with Samrála, the tabsil head-quarters, whence there is also a metalled road to Ludhiana; and, although the distance is 26 miles, all traffic goes round this way. The town has a population of 5.967, of which a large portion is agricultural, the village area being 4,800 acres. The town may have stood in Hindu times, as a place of the name is mentioned in the Mahabharat; but it is doubtful if it can claim greater antiquity than that allowed by the account that it was founded 890 years ago under the Ghorian dynasty, like Ludhians, on the south bank of the Satlej. The name means "the place of fishers," and is common all along the river. It was under the Ghoris that the Rajputs first settled in this part of the country (paragraph 21). The town has a considerable trade in sugar, the rab of the Bet coming into it for manufacture into khand or bura (a coarse brown augar). Some account of this trade will be found in paragraph 138, and in the Note on Sugar appended to the Report, and I have estimated the annual value of the exports of augar and syrup at 1 to 13 laklis of rupoes. There is a considerable commercial class composed of Khatris, Banias, and Suds, engaged in inoney-lending business with the villagers about, principally with the Mahomedans of the Bét. The sugar trade is mostly carried on by the Khatris, who combine it with money-lending, taking payment in "rab," which they refine into

- khand, &c. The town has a third class Municipality with an average income of Rs. 3,332, of which about 1,000 is levied on the "råb" brought in for manufacture. The streets are good, well-paved, and clean. The public institutions are a Police station, a Dispensary and a Middle School, where English and Vernacular are taught. As in Ludhiana there is a terrible amount of sickness in the autumn; and for two mouths most of the inhabitants suffer from fever. Under the Sikhs Machiwara was the head-quarters of the Sodhis; and they have left a large brick fort, now partly occupied by the Police station, and a Diwán Kháua or Court.
- Khannah (tahsil Samrala) is a small town on the Sindh, Panjab and Delhi Railway, 26 miles south-east of Ludhiana. It has no particular history; but in Sikh times was the Khanna'r. seat of one of the petty chiefs amongst whom the country was divided. The last representative of the race was "Mái" Daián Kour (para. 90), on whose death in 1850 the large jágfr of the family lapsed. The family had a masoury fort, mostly demolished now, but of which portions still remain. Since the opening of the railway in 1870, Khannah has increased in importance, and there is a rising trade in grain and cotton (exports); salt, iron, &c. (imports). The railway station is a good one, and large consignments of grain come up from the Nabha and other territories, which lie to the south The population increased from 3,408 in 1868 to 3,988 in 1881 (17 per cont.), and it is to be expected that there will be a further development. The average actrol income for sever years was 4,003, the increase being from 1,468 in 1876 to 4,385 in 1882. There is at present no good road to the south, and most of the trade comes on camels, donkeys, &c. The town is very healthy; and has good clean bazars, very wide for a native town. The houses are unpretensions, being mostly of one storey, and many of sun-dried bricks only; and there is not much actual wealth in the place as yet. A large portion of the population is agricultural. There is a Municipal Committee of the third class, a thansh outside at the encamping ground, and a Vernacular Middle School. The only objects of interest are the ruins of the old fort and of an Imperial sarai, built in the time of Aurangzeb.
- 181. Bublohur is situated on the ridge over the Budha, seven Bublohur.

 Bublo

with the people of the Bét. The town is very unhealthy, like Máchi-wárah, from its situation. There are a number of old tombs about the the town.

Some of the more important of the villages are Sahna population 4,050, situated 54 miles south-west Lurge villages. of Ludhiána. This is the largest of the Jangal villages, and the original seat of the Maloud family, who have a very large fort in the village. The inhabitants are almost all of the agricultural class, and the houses of sun-dried bricks. There is a bazar with a few ordinary shops. There are seventeen lambardars or village A Police station has lately been established here. Raipur (population 3,747) is the chief village of the Garewal Jats, who had some local authority at the close of last century. The houses are almost all built of burnt bricks. The population is mostly agricultural; but there are a good many shops in the bazár. The village has twelve headmen. Situation, 11 miles south of Ludhiana. Of Tihara (population 1,143) mention has already been made (para, 21). It is situated in the North-west extremity of the district on the high bank over the river. The present inhabitants are the ordinary agricultural and miscellaneous population of five or six viltages (called Tarafe), who are collected together in a common site like the people of the Agwars of Jagraon. There is also a fair bazar with a number of shops. The old town has long since disappeared into the river, and there are no traces of it now. Sahnewal (population 1,988), a station on the Sindh, Panjab and Delhi Railway, nine miles south east of Ludhiana, may develope into a place of some little importance. A good bazár is springing up. Maloud, the residence of one of the branches of the family of Sardars, which derives its name from the place, has a small trading community and a good bazar. The population is 2,849. There are some other very large villages such as Kuonke (3608, Bussian (2,962), but the population of these is entirely agricultural.

PART II.

THE REVISED SETTLEMENT (1878-83).

CHAPTER VII.—FISCAL HISTORY OF THE DISTRICT OF THE PRESENT SETTLEMENT.

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Steeds part of the report.

It is operations of the Settlement just concluded, together with such information regarding
the previous fiscal history of the district and
of the former records as I have been able to collect, or as appears to me
likely to be useful; and I will begin with the fiscal history and the new
assessment, taking the records afterwards, although the latter might
perhaps more properly come first in order.

In the Aien-Akbari we have under the head of "Tribute and Taxes"

(Gladwin's translation, Vol. I, Part III) a complete acoust of the great Emperor's revenue system on, and some reference to those that had preceded it. The ministers, Todarmal and Muzaffar Khan herween the sixteenth

ed it. The ministers, Todarmal and Maziffar Khan between the sixteenth and twenty-fourth years of the glorious reign claborated a scheme for fixing the land-revenue of the Empire, and for giving security to the husbandman, which is nearly as complete as our own. One standard chain and bigalı (see paragraph 145) were first introduced; then land was classified into "poolej" or cultivated every barvest, and "perowty," "checkar," " banjer" (Gladwin's spelling), fallow and arable waste. The average produce of each crop was then struck from the estimated value of the yield of three classes of poolej or regularly cultivated land; and of this one-third was taken as the Government due, all extra cesses being at the same time stopped, and salaries to be paid in eash from the linperial Treasury being fixed for the officials, who had before that lived on the people. From the twenty-fifth year of the reign a ten-years' Settlement was introduced, the value of the Government share in each crop being taken at the average of the preceding ten years. Elaborate instructions were at the same time formulated for the guidance of the Collectors ("Amilgazárs") and subordinate agency. The assessment was apparently a fluctuating one, the rates on crops being fixed for the period; but the people were allowed to pay in kind if they chose. The rates were uniform for "subabs" or provinces; and no special information is to be obtained about this district in particular, as it is made up of several of the 83 "maháls" of the Sirhind "sarkár" or division, of which the whole land-revenue is set down at 40 lakhs of rupees (16,07,90,549

Tables are given in the Aien of the rates collected on every crop during a period of nineteen years from a bigah of "poolej" or cultivated land in each subah. Wheat paid generally from Re. 1 to Rs. 2 a bigah; grain, &c., from 8 annas to Re. 1; " ponda" sugarcane, from Re. 4-8 to Rs. 5; other cane, from Rs. 2 to Rs. 3; cotton, from Re 1-8 to Rs. 3; pulses and millets (moth, mung, joar, &c.) from 4 annas to Re. 1.

It was not to be expected that any more particular information as to the assessments paid by villages or tracts 300 years ago would be forthcoming; and, as the country was but partially under cultivation, and the present villages did not then exist at all or their limits have much changed since then, it would scarcely be of much use even if available, The rates fixed are, bowever, interesting.

Revenue management under the later Empire : Leases to "nacatájirs" or "zemindárs."

184. We cannot say to what extent the system of Akhar was maintained by his successors; but the administration of the revenue must have suffered in the general disorganization of the Government under the later Emperors; and in all parts it came to be a struggle between the collectors and the

payers of revenue, the former trying to take as much, and the latter to give as little as they could. The custom of leasing a large tract of outlying territory to some person of importance, who paid a fixed demand, and made his own arrangements for collection (" mustajir" or "zemindar") must have been recognized even in Akbar's time, for the western mahals of the district were always held by the Rais on these terms. Phulkian and Malerkotla chiefs, too, were originally lessees, and held their territories subject to the payment of what was really an annual tribute. The " mustajir" was liable to pay the sum so fixed, but was otherwise independent; and it was only when he withheld payment that the Imperial authorities interfered.

The mustajir, if his circle of villages was small, took a share of the produce from the cultivator, or sometimes cash rents on particular crops; but generally, as he hold a large tract, he sublet it in smaller circles to others who dealt direct with the cultivators. The eastern parts of the district were at first directly managed by the Governor of Sirhind, because they were within easy reach, and an assessment was fixed year by year for each village; but, as the Imperial authority weakened, and collections became more difficult, the system of leasing "tappahs" or circles of villages spread. The principal nuctafir or assignee in this district was the Rai of Raikot. The family began with a few villages, but gradually extended their boundaries, undertaking the revenue management (called " katkana") of outlying circles of villages as the Governor of Sirland lost control of them; till finally they held more than half of this, and a good part of the Ferozepur district. The Malond Sardars, like others of the Phulkian stock; had also a lease; and paid tribute to the Emperor, taking a share of the produce from the husbandmen. There were other " mustájirs' of lesser note, such as the Garewal Chaudhris of Raipur and Gujarwál, who had a small circle of villages, and paid revenue direct into the Imperial Treasury. The ability to realize the revenue

has always been the test of power in this country; and we find that, as the Imperial authority grew weaker, the mustajirs were less regular in their payments; while the villages directly assessed would only pay when forced to. As an illustration I may recount the following incidents that took place about the year 1740 A. D.* The Rai (Kalha) was not paying up his revenue regularly, and informed the "Subah" or Governor of Sirhind that he could not realize from the villages. This was reported at Delhi, and Ali Mahomed Robela was sent to bring the people to order. He marched out of Ludhiana towards Jagraon, putting to death lambardars here and there by way of example; but he soon found that it was the Rai himself who had created the difficulty and incited the people to withhold payment. Ali Mahomed then turned on the Rai; and with the assistance of the Phulkiana chased him out of the country.

An account of the manner in which the country was parti-185. tioned on the disruption of the Empire and the Revenue management fall of Sirhind (A. D. 1763) has been given in under the Sikha. paragraph 26. The western portions of the district were already in the possession of the Rais, and of the Maloud Sardare, who between them held the greater part of the Ludhiana and Jagraou tahsils; while Samrala and some of the western villages of Ludhiaus, which had hitherto been under the direct revenue management of the Governor of Sirhind, were seized on in groups by a number of petty Sikh chiefs from across the Sath, The only difference that the change made to the Rais and to the Maloud sardars was that they ceased to pay tribute. The petty chiefs from the Manjka brought with them their system, if such it may be called, of revenue; and when in 1806-9 A. D. M. Rapilt Singh extended his territories to this side of the river, annexing all the country held by the Rais, and absorbing several of the petty chiefs, this may be said to have been introduced all over the district, Ranjit Singh divided his conquests between himself and the Kapurthala. Ladwa, Nabha and Jhind chiefs in the manner described in paragraph 29, and illustrated in map No. IV. accompanying this report. The greater part was either retained by himself or given to the first of these. I have above talked of a system of revenue; but I fear it must be said of the Sikhs as rulers, whether in the Panjáb proper or in the Málwah, that their system was to exact as much from the cultivator as was possible without making him throw up his land. No one will claim for Ranjit Singh the reputation of a mild and benevolent ruler. On the contrary the carcless manner in which be leased out tracts of country along with the revenue payers inhabiting them to the man who was willing to give most, or to some worthless court favourite, showed that he had a complete disregard for the welfare of his subjects. It was only when by some happy chance a really enlightened ruler of the stamp of Sawan Mal was entrusted with the government of a portion of his conquests that any consideration was shown for the people. The chiefs, great and

^{* (}They are referred to in paragraph 24)

small, pursued the same object as the Maharaja, i. e., to get what they could out of the peasantry; and the only restraining influence was the fear of losing the revenue payers. Land was then plentiful, and cultivators scarce, so that there was the danger of a chief driving away his villagers into the territories of a neighbour, who was not quite so bad. In effect the chiefs were laudlords who exacted from their tenants the utmost that they could without driving them away. There was a strong feeling on the part of the peasantry that they had a right to cultivate the land, and it was only the must extreme tyranny that would separate them from it; but on the other hand the demands of the chief on the produce were limited solely by his own discretion. It is of these chiefs that we read in the "Panjah Rajas" that their rule was a mixture of "tyranny and rapacity," and that they "played at independence, which for them had no nobler significance than the right to do evil without restraint and to oppress the people who were so unfortunate as to be their subjects."

Måharája Ranjít Singh leased the territory reserved for himself in circles of villages, the lessees being The same continued: changed from time to time. Thus the family of methods of fixing the revenne demand. the "Vakils" held the pargana of Sahnewal, paying Re. 1,00,000 per annum for it; and Janualar Kinshal Singh held about 150 villages in different places. These lessees made their own arrangements with the villages year by year, generally taking care to leave & margin of about one-fourth as profit on what they paid into the Lahore Treasury. For some villages a cush demand was fixed, in others a share of the produce was taken or the cash value of the Government share was determined by appraisement. The Kapurthala (Ahluwalia) chief had a large tract of country on this side of the river, nearly the whole of the Jagraon tabsil: and the method of fixing the assessment in his possessions may be taken as a sample, and appears to have been as follows. The tabsildar went from village to village every " Mushakhsa" or centrast year, and first made an offer to the lambardars of the assessment at a certain sum for that year ("mushakhsa"). This was often recepted; but if not, a valuation of the Government share of the produce for the year was made by a committee selected from the respectable lambardars of the neighbourhood. For the rabi harvest an appraisement ("kan") of the value of the yield "Kan" or appraisement, from each field was made when the crop was and "sabti " or crop rates. ripe; and for the kharif crops fixed cash rates were generally applied. The resulting assessment for the year was seldom exacted in full, notwithstanding the free use of the various recognized methods of torture; and large balances were generally allowed to acerue.

The lesser Sikh chiefs took a share of the produce in the cabi, and cash revenue according to certain rates for the kharif crops. They were really "zemindárs" in the Bengal sense of the word; and will still assert that the land of the two or three villages that they

held belonged to them. The rates paid by the cultivators on the "zabti" crops were as follows:—

Crep.							Rate per sere.							
Cane	1			•••	Rs. 14	Α . υ	P. 0	to	Ra. 20	A .	P. 0			
Maize, Cotton	•••	***	•••		7	0	0	to	10	0	0			
Charri, Moth, &c.	•••	•••	• • •	•••	7	4	0	to	3	4	0			
Carrots and other	vagetabler	, poppy, &c.	***					0						

These rates were fixed for a kacha bigah or ghunao, which varied a good deal throughout the district, each chief having his own standard. I have taken the kacha bigah at one-third of the Government standard, as this was about the average. The rate at which the chief realized his share of the produce was generally one-third of the grain and one-fourth of the straw. The share of the grain was often fixed as high as half. The Rais are said to have only taken oue-fourth grain; and their rule is still spoken of with regret. One would have thought that with rates fixed so high the peasant would have little left for his maintenance; but besides the regular revenue there were the usual dues in eash or in kind, paid to the chief or to the harpies who represented him in his dealings with the people. It was impossible that the cultivator should pay out of his produce all that he was supposed to; and his main resource was pilfering from the field or grain heap before division. The saying "bataie lutaie" applied with equal effect to both parties. There were about a dozen dues levied generally in cash under some absurd pretence or other; and, if we add to this that the chief quartered his men and horses on the vinegers, and that the latter had to contribute their labour gratis whenever called upon to do so, we may imagine that the lot of the husbandman was not a happy one, and that he could scarcely call his life his own. It will require a training for several generations to efface the results of a system like this, and to convince the people that such a thing as honesty is possible in the relations between Government and the revenue payers.

187. In 1835 we acquired in the manner described in paragraph 31

Settlement of tellagers a small portion of territory round Ludbiana and Bassian, in all 74 villages. These were managed in much the same way as the surrounding native territory for four years: then a summary cash assessment was fixed for three years; and finally in 1842 a Settlement was made for twenty years, apparently by the Assistant Political Officers, Captain

Mills, Messrs. Vansittart and Edgeworth. I can find no English report of this Settlement, which was probably more or less of a regular one on the model of those of the North-West Provinces; and I gather from paragraph 71 of Mr. Davidson's report (written in 1853) that none was submitted. A complete vernacular record with maps was made out; but this was revised when the rest of the district came under Settlement in 1850, and the assessments of 1842, were at the same time reduced where necessary, enhancements being deferred till the expiry of the full term of the original Settlement. The following statement shows the result of the assessment of these villages in 1842:—

No, of villages.	Aurockept.				
	Fixed in 1842.	As Revised in 1850-53.			
71	75,680	74,893			

Three villages were not assessed in 1842, because held revenue free. It will be seen for this that the assessment of 1842 differs but alightly from that fixed after revision.

Summary
Summary
1847-49.

Summary
1847-49.

Summary
1847-49.

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Summary
1845-46 (see paragraphs 34 and 35); and a summary assessment was fixed by the first Deputy Commissioner, Captain Larkins, who held charge from 1846 to 1849, Sir G. Campbell, who succeeded him, completing such work as remained to be done. The only guide for the Assessing Officer was the amount collected from each village by our predecessors; and this was ascertained, so far as possible, for a period of five years from the old papers, statements of leading men, &c. A very liberal deduction was made from the results arrived at in favour of the people, the amount of this varying from three to six annuas in the rupee.

The jegir villages were excluded from these operations, and the jegirdars were allowed to continue their collections in kind, &c., as before till after the annexation of the Panjáb in 1849, when it was decided that a cash demand should be offered to all villages alike. The assessments of the Summary Settlement were accepted readily; and, considering the data on which they were founded, worked wonderfully. A few villages became disorganized, probably owing to the change of system, and reductions had to be made here and there; but the people welcomed a fixed demand, and this need not excite our surprise when we think of what they had borne under our predecessors. It is usual to contrast the elasticity of native systems of revenue with the rigidity of ours; but it was the complete want of fixity that made the Sikh system a curse to the country. The best way of forming an idea of the fairness of the summary assessment as a whole is to observe the extent to which it was necessary a few years after to revise

it in the Regular Settlement. The following figures are taken from Mr. Barnes' review of the Regular Settlement, Appendix A, which shows the final result after he had made some alterations in Mr. Davidson's new assessments:—

NAME OF TARGE.		хихид.	D.,,,,,,,,	
		Summary or by Jagirdára' estimate.	Regular.	Decrease per cent.
Pakhowál	***	2,88,141	2,55 959	11
Jagráon Ludhiána	***	1,74,331	1.68.383	3
Samrála	•••	2,46,786 3,36,339	2,42,150 2,59,108	20 20
Total	***	10,45,599	9,25,600	11

As noticed above, the jagir villages were excluded from the summary assessment, and this statement includes the jagirdars' estimate of their previous collections. In speaking of the results of the Regular Settlement I will show the actual extent to which the assessment of the khaisa villages was altered. The details of the revenue paid by them in the summary and in the Regular Settlements will be found in columns 79-83 of Appendix I.

189. The Regular Settlement operations commenced in 1850: and the assessments were announced between The Regular Settlement : that and 1853. They were framed under the method of calculating the regulations then in force and the instructions of the North-Western Provinces Board of Revenue, embodied in the Directions to Settlement Officers. The edition of this work then in force lays down the rule "that the Government should not demand more than two-thirds of what may be expected to be the net produce to the proprietor during the term of Sattlement, leaving to the proprietor one third as his profits and to cover the cost of colection." In paragraphs 40 and 41 of his Report Mr. Davidson has given an account of how his calculations were worked out. There was a very elaborate classification of soils, each tabail was considered by parganas (of which there were 19); and the villages of each pargana were divided into three classes according to quality. In each class of villages the rent for every crop and soil was calculated; in the case of the kharif cash rents ("zabti"), which were actually in use for the principal crops and had been taken by our predecessors, giving the necessary data. For crops on which the rent was ordinarily taken in kind a rate of yield as ascertained from experiment and inquiry was assumed, the proprietor's share calculated at the prevailing rate of rent in kind, and the value of this worked out at the average of the prices current for twenty years. The rental of each village was the total of the rents of each crop and soil.

The following is an instance of the sort of calculation made for the "Niái" land of a village;—

10 Aeres u 10 Pitto 25 Ditto	nder sugarcane at cotton maize	a rent of ditto	7 ditto =	•••	••	130 reu 70 di 175 di	tto
25 Ditto	wheat	ditto	4 ditto =			100 di	
70 Ditto			Total crops		Rs.	475 d	itto

of which two-thirds is Rs. 316, giving on the 70 acres a Niái rate of Rs. 4-8-2 an acre; and the value of the other soils was estimated in the same way. For the kharif harvest the rental calculated was very little out, if at all. The rates assumed do not vary much from pargana to pargana, and there were the old Sikh zabti rates to go on beside existing cash rates of rent. But I think that the estimates of yield are much less reliable. As a rule the irrigated rates are much too low; and, although the cultivation may have improved, it cannot have done so to the extent that a comparison of our papers and those of the Regular Settlement would indicate. Thus the assumed rate of yield for wheat or maize in the best irrigated land is eight to eleven mands an acre, never more than eleven; while the unirrigated rate of vield is very little less. In one statement I find the "zabti" rate of maize Rs. 9-11 an acre, and the rate of yield in Nide land ten maunds, which at the price assumed of 56 seers a rupee gives Rs. 7 as value of the whole produce. Again the rates vary capriciously from pargana, in pargana. Thus in the Sabnewal and Bhartgarb Bets (our Bes 1), was rates of yield of wheat in "Dofasli" land is seven or eight maunds an acre, while in the Nurper Bet (our Bet II), which is a very inferior tract, fourteen and sixteen maunds are taken. The result of this inequality is seen in the way in which the Nurpur rental is run up. Except in this one pargana I should say that the rates of yield in unirrigated land were correctly estimated, and those in irrigated land much too low. As to the proportion of the gross produce taken to represent the proprietor's share, part of paragraph 9 of the Chief Commissioner's review of the report ("the equitableness of the rate, &c.") appears to have been written under a mis-apprehension, and indeed is scarcely intelligible. The rate adopted as proprietor's share was one-third of the gross produce in the uplands, and two-littles in the Bet; and of this rental two-thirds was taken as the share of Government, that is, as the revenue rate jama. Mention of the prices current used in the estimates of Regular Settlement will be found elsewhere, but I may here say that the prices fixed, though warranted by the information then at the disposal of the Settlement Officer, were too high for the following ten years (1850-60) which was a period of very low prices. It will thus be seen that the weak point of these calculations

Regular Settlement continued: the Government share of the rental and the actual assessments.

of the rental was the produce estimate, the rates of yield not being carefully determined; but even with this the rentals were very near the truth in most cases. From them a deduction was next made in favour of the proprietor. Under the instruc-

tions quoted above this would be one-third, but in paragraph 43 Mr. Davidson tells us that he adhered to no abstract rule, but adjusted his demand to that "prevailing in the pargana," which would be the summary jama. The balance after making this reduction from the rental was the revenue rate assessment. Soil rates were worked out in a way by the following process: The rental of 100 acres of "bhur" soil was calculated as above to be Rs. 150; and a deduction of one-third was the allowance for the village, giving a revenue rate jama of 100; or 1-0-0 an acre was the "bhur" rate of the village. Having got his revenue rate assessment for each village the Settlement Officer used it as a guide in assessing, but did not adhere to it at all closely, the total of his actual assessments being considerably below it. From paragraph 41 of the report I take the tollowing figures:—

1 .	2 a	4
Previous domand.	Total rental. Revenue rates.	A stual do mand.
10,51,557	16,08,823 10,35,094	9,41,347

which gives the demand as 58 per cent., of the rental.

Recular Settlement continued general character of the assessments, as described by Mr. Barnes.

191. In paragraphs 9 to 31 of his review Mr. Barnes gives an account of Mr. Davidson's assessments for each talkall (there were then four of them, see paragraph 152 of this report.)

Those of Pakohwal tahsil Mr. Barnes considered moderate; and few complaints were made to him. Pakhowal comprised the lower part of the present Ludhiana tahsil, with the Akalgarh and Bassian parganas of Jagraon. The Maloud jagir had not been before assessed. The details given in the review for this tahsil are:—

		Khálsovillages.	Jágis villages.	_utel.
Summary assessment		1,67,647	1,15,938	2,83,585
Regular Settlement assessment	.,.	1,79,425	74,950	2,54,375
+ -	•	+ 11,798	- 40,988	

As before explained the summary assessment of the jagir villages is a mere estimate.

^{*} NOTE.—I give these details as I find them without an, attempt to reconcile them with the figures quoted in para. 188.

The treatment of the Jagraon tahail was considered to be not so successful, and numerous complaints were made.

The assessments of the Hatur pargana were reduced by 14 per cent.; and relief was also given in Jagraon pargana. The figures for the whole talisis shown in the review are:—

 Summary assessment
 ... 1,74,195

 Mr. Davidson's assessments
 ... 1,79,282

 As reduced by Mr. Barnes
 ... 1,68,383

Even after this Mr. Barnes expressed himself very doubtful as to whether the Settlement would stand. At the present time the Hatur and Jagraon parganas are undoubtedly in a more prosperous condition than any other part of the district, except perhaps the Jangal villages; and it is hard to realise the "appearance of squalor and poverty" to which Mr. Barnes refers. The explanation appears to be that these parganas, which lie on the Ferozepur border, have always been dependant on a comparatively light rainfall, the proportion of irrigation being at present about 5 per cent. There had been two or three bad years when Mr. Barnes saw the tract in 1855, and the prices of the inferior graius (mixed gram and wheat, or gram and barbey mostly) were very low. Be this as it may, the forebodings of the review have not been realized.

The Settlement of the Ludhiana talisit was considered to be better than that of Jagraon, and there was little or no complaint. The new demand was a reduction from 2,46,787 to 2,42,704 or of 1 per cent.

Samrála tabail Mr. Barnes considered to have been before Samrála tabail. "grievously over assessed." The nominal reduction given by Mr. Davidson from the Summary Settlement jama was—

Summary Settlement 3,43,509
Regular Settlement 2,62,582

80,927

or 23 per cent.

If we exclude the jagirdars' estimates (para. 188) the reduction is about 20 per cent. Few complaints were made about the Regular Settlement assessment.

It is evident from what Mr. Barnes writes that two or three years after the new assessments had been announced they were subjected to a searching scrutiny; and such defects as appeared were at once remedied. The Commissoner visited every part of the district and freely exercised his power of revision; and no man of his day had greater knowledge of the work of assessing than Mr. Barnes. The total of the reduction given outside of the Jagraon tabeil was inconsiderable.

The term of the Regular Settlement was sanctioned formed the subject of some correspondence in 1879; and I may here mention the circumstances connected with this so as of prevent future misunderstandings. The term of the Regular Settlement of 1842

was twenty years. Mr. Davidson's assessments were introduced between 1850—58; and the tenders were taken for thirty years, either from the date on which they were written, or, when in the case of the villages settled in 1842 enhancement was proposed, from 1862, i.e., after the expiry of the original period of twenty years. In para, 23 of the letter (No. 686, dated 11th August 1856, printed with the report) in which the orders of Government on the Settlement were conveyed to the Financial Commissoner the sanction is said to be "for the period of thirty years, i.e., up to A. D. 1880." But the orders of Government were lost sight of, probably in the confusion resulting from the Mutiny; and the tenders of engagement remained unaltered, and show the periods as not expiring till 1892 and 1893 in the case of some villages. It was held in 1879, on a reference to Government, that the period of Settlement for the whole district should be taken as expiring in 1880; and that this should be notified to the people.

Working of the Regular Settlement assessment.

Working of the Regular Settlement assessment.

The village of Bairsal in Jagrain was leased for ten or twelve years. In a few villages (part of Dhandra, Khanpur, Bahadarpur, Kanganwal) proprietary rights were transferred on account of refusal to engage in 1842 or for balances found to be due in 1847; but I cannot learn that any difficulties followed the introduction of the Regular Settlement assessment of 1850. In only one village has the assessment been reduced since the revisions of Mr. Barnes.

The following extracts from the annual Revenue Reports give the opinions which several distinguished officers Opinions of officers in charge of the district as to formed between the years 1860 and 1870 the Regular Settlement asof the working of the Settlement. In the report for 1861 Major McNeile writes that, sosment. Major McNeile. although balances had accrued in a few villages owing to the drought, they would be realized. "The coercive measures have been limited to a few dastake, if they deserve the name of coercive measures." In the report for 1861-62 Colouel, (then Captain) W. G. Davies writes: "The whole of Colonel Davies. this revenue, together with nearly all the balances arising from suspensions during the drought, has been collected without recourse being had to a single properly so-called coercive measure, a striking proof of the lightness of the assessment, and the fairness of its distribution." As to coercive measures, "none have been resorted to in the course of the year, and 'dastaks' have only been issued in sufficient numbers to provide for the pay of the establishment for collecting the revenue." As to the value of land: "A light assessment has given a high value to land in the eyes of the industrious Jat." Report of 1862-63, Mr. C. P. Elliott :- " A perusal of the reports and returns of this district for the last ten years Mr. C. P. Elliott. shows that during the term of the present Settlement not a single coercive measure, with the exception of the issue of a few dastaks as reminders, has been resorted to, a strong



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testimony to the lightness of the assessment, and the fairness of its distribution." As to the price of land: "The average selling price of land has undoubtedly risen within the last few years, owing probably to the lightness of the assessment. There are perhaps few districts in the Panjab where a better price can be obtained." These remarks are most important, because they give the opinions of three such officers, and relate to a period that was most trying for agriculturists everywhere, beginning with several years of depression in the value of agricultural produce and ending with two or three seasons of drought. In 1863-64 Mr. Elliott says that the issue of the "usual untuber of dastaks was the only coercive measure. It is pleasant to feel with what ease the revenue is paid in owing to the lightness of the assessment and the general prosperity of the people." In the report of the next few years the same officer (Mr. Elliott) makes remarks to the same effect. In the report for 1868-69 he writes: " Notwithstanding the late scarcity the number of dastaks issued was not larger than usual. No other coercive measure was adopted." The report of 1869-70 contains these remarks: "Considering the bad barvests in the year under report, the above results" (recoverable balances of Rs. 2,551) "were scarcely to have been expected It proves that the assessment of this district is really exceedingly light, The revenue was paid with even less resort to dastake than in 1868-69." (This was written by Colonel Elliott apparently). In the report for 1870-71 Mr. Cowan writes: "None of this balance (Ra. 809) is reported pa irrecoverable. The abundant Mr. Cowen. kharif harvest of this year has doubtless contributed to the result, and the assessment of this district is notoriously a light one." I might multiply these quotations, but have selected the period 1869-70, because it contains the only two sensons of scarcity that have occurred during the currency of the Settlement. I suppose too that no officers ever acquired such an intimate knowledge of the district as Major McNeile and Mr. C. P. Elliott (the latter had charge of it continuously from 1862 to 1869); and their opinious as to the assessment are very favourable.

The remarks apply to the whole district, but no exception is made, The authorities quoted considered that the assessment was light and fairly distributed. No coercive measures have been resorted to, a sufficient number of dustaks being issued as a matter of course to provide for the pay of temporary establishment required for assistance in collection. The balances due to suspensions in the years of scarcity were insignificant (less than I per cent. of the demand), and were I might add to the above quotations from the quickly realized. opinions of officers between 1870 and 1878, but they appear to be nanocessary. There has been little difficulty in collection anywhere, except in some parts of the Bet; and it may be said that any apparent stackness is due, not to inability to pay, but to a hereditary unwillingaese to do so. This element will be appreciated if we compare our mild methods of getting in the revenue with those employed by our predecessors. A lambardar, who has probably had experience of the latter, is not likely to care much for the issue of a warrant. In the Mahemadan Bet (Rájput and Gujar) villages there is generally a scarcity of cash, and the revenue has systematically to be borrowed; but this would still be the case if we were to reduce it by half.

In a series of Appendices (No. Va.—c) to this Report I have collected such information as I could obtain Transfers of land, General relating to the transfers of land during the last 30 years. Under native rule the only persoms who could have rights in land were the husbandman and the "Sarkar," i.e., the chief, great or small, the revenue assignee or other person entitled to the rest. The right of the husbandman had certainly no market value, and a transfer by him for consideration was not possible. Our Regular Settlement recognized his right as something much better than that merely of cultivation; and we surrendered to him a substantial share of the "Sarkar's" due. With a fixed assessment and a rise in the prices of agricultural produce the amount of profit to the proprietor after the payment of the Government revenue gradually increased; and land came to have a value in the eyes of all classes, not merely of agriculturists; while other and less healthy causes tended to stimulate its transfer. The power of raising money on the security of land produced extravagance, as the husbandman could command unlimited credit; and our costly legal system, with the high rates of compound interest, which at all events would never have been allowed under native rule, have aggravated the evil. The general result may be stated for the whole district that 2 per cent. of the area has been sold in the last thirty, years, and that at present 8 per cent. is held in mortgage with possession, these proportions being fairly equal everywhere. Mortgages without possession are, I may say, very uncommon. One agriculturist will not advance money to another unless he gets land into his possession sufficient to give a fair return; while the money-lending classes give credit on running accounts, or, if the borrower's credit is not good, on land transferred to them. The following statement shows the distribution of the transfers over the three tabells :-

				P. C. OF TOTAL AREA.					
	14	hedi,		Bold.	Mortgaged.				
Samrala				2	6				
Ludhiána	•••		·	2	7				
Jagráon	•••		•	2	13				

The registration returns (Vc.) show that the number of transfers previous to 1865 was very small; but that it has not varied very much during the three periods of five years 1866-80. The general question of what the causes are which have led to the transfers since 1865 is a very wide one; and I do not propose to consider it here. They cannot be a sign either of want of prosperity or of undue pressure of the land-reverue, for the agricultural population has never been so well off as during these

fifteen years, and the profits of cultivation have never been so great. I have no doubt that on the contrary they indicate prosperity, and may be due to extravagance resulting from a sudden influx of wealth. It is remarkable that the proportion of area in mortgage should be higher in Jagraon than in the other tabsils, although we know that the condition of the Jata here is superior to that of any other part. I should also add that mortgages are very often not due to any real pressure of debt, but merely a method of raising money temporarily required; and sometimes too they are a mere form of theore.

195. In the next place let us see into whose hands the transferred land has come. The following is an abstract transfers have been made. of Appendices V. a. and b.

P. O.		Co-pareenare.	Other agri- en/turists.	Non-Agri- sulturists.	Total.	
Sold to		42	23	35	100	
Held in mortgage by		(743)		43	100	

The inference from this is that the agriculturists can hold their own against the class whose profession is money-lending far better than in most districts of the Province. The Jrts of the uplands at all events seldom allow an outsider to acquire permanently any land in a village community. The right of pre-emption is generally claimed and insisted on; and it would be also in the case of mortgages, if the law allowed of this. Every well-to-do Jat who has saved a little money will endeayour to invest it in a mortgage of land, and some of the tribe have established very large money-lending connections. Amongst the Mahomedans of all tribes, too, there are a good number of men who hold land in mortgage. It would never be difficult for a cultivator in the uplands to raise a loan on his land from a co-sharer; and this could generally be done also i.. most parts of the lowlands. But there is often a prejudice against borrowing money except from a regular money-lender. There are some very large bankers of the regular money-lending class in Ludhiána, Jagraon, Raikot and Machiwarah, who carry on a large business with the villagers; and also some scattered over the district; but the mass of the Jat population can get on without any assistance, and have generally some cash in hand. Certain parts of the district are more prosperous than others; and in noticing the assessment circles in detail I will describe the condition of each. The total outstanding debt on mort. gage is returned as upwards of Rs. 20,00,000, or about two years of the revenue demand. Of the money owed on book debt we have no details.

Price of land.

Rs. 34 or 26 times the revenue demand, and the mortgage money secured per acre (with possession) as Rs. 32 or 28 times the revenue demand. The price which land will tetch varies a good deal over the district; and appears to be high-

est in Jagraon and the Jangai where the labour of cultivation is small, the revenue light, and the rate of rent in kind high. The great rise in the price of the inferior grains has also probably something to do with this. The following statement taken from Appendix Vc., shows the manner in which the price has risen during the last thirty years:—

Tansil,	Pariod of Pive Years.											
	1852—65.	1866—60.	1861—65.	1866—70.	1871—75.	1876—80.						
Samrála	•••	' δ	18	23	37	34						
Ludhiána	11	11	16	40	71	58						
Jagráon	•••	5	14	25	39	50						

Land taken up for public purposes. The following are the details as to compenention paid for land taken up for the Sirbind Canal about the year 1869:—

	"La" Late Date published and " " Co."														
				K11	ı. 🖫		KRI	LIS CHA	n. M.T.	-	Rovali	ι,		Виот	<u> </u>
Tabeil.	CIBCLE.		Ares.	Price.	Average.	4	Area	Frica	Average.	Arek	Price	Average.	Aree.	Price.	Avorage.
Samrala.	Lower Dhaia Upper disto		69 14	4,20	100	3 1 2	8E	, 251 1,634	51 43	745 69	12,490	1		1 -,	
1	Upper Dhain There	***	*	1,77	3 4		113 31	4,306 900	36 28	289 301	10,686	J. 37	1	1 -	
<u>i</u> į į	Upper Dheia		4	2,70	7 e	0	11	1,045	50	854	23,304	*	100	1.00	16
			-	Japes	.		Qui	PEK.	Um	COLUMN	MALE		Water		Build.
Tabuil,	CIBCES.		Area.	Price.	Average.	Arca.	Price.	A V01 460.	Area.	Prios	ATBERGO.	Aren.	Price.	Average	Priva of P
Bearsla ()	Lower Dhas	11-	28	435	15	40 13	20 29	1 "	18	166	9	10	3,450 65a	395 217	96
Ladhiyas	Upper Dhills Titlers	 	•	127	14	78 61	1,22		62	877 37	6	, s	4,370 1,200	546 400	1,296
- i i i }	Upper Dhaia								59	254	4	4	1,168	293	320

CHAPTER VIII .- THE REVISED SETTLEMENT, 1879-88.

197. The revision, after a currency of thirty years, of the assessment of a tract in which there was but little room for The new assessment : prinexpansion of resources beyond what was due to ciples for guidance in a revision of assessment. . such general causes as a rise in prices and the consequences of this is not a task of anything like such difficulty as that before an officer who had little to guide him beyond the experience of a few years collection of a fixed demand, and such information as he could obtain about the value and productive power of land in a country recently annexed. Where there are no large owners realizing rent from their tenants, but only small holdings cultivated by proprietors, all calculation of the rent or net profit of cultivation must be to some extent theoretical; while the manner in which a village composed of small properties has for thirty years paid a fixed demand to Government, and the degree of prosperity which it has enjoyed during that time are perfectly certain tests of what it will be able to bear in the future. Of course, it Government. has fixed a certain standard, and we find from our calculations that this has been exceeded in any case, it is our duty to give due weight to this in determining whether we should continue the assessment; but we can never have such confidence in our estimates of the value of the land of a village as to reject the experience derived from its past fiscal history.

The directions to Settlement Officers, as published under authority and embodying the alterations up to date in the orders and principles laid down by Government, together with the changes and additions from time to time suggested by the experience of the Department, and contained in recent reports and reviews, and such special instructions as the local Government may issue for his guidance, are what the Settlement Officer

has to go on in the work of assessment,

I may say at the outset, with reference to a recent resolution of the Government of India, that the revision of an old Settlement in a district like Ludhiana could not be founded on a complete revaluation of the land; and I hope that I will be able to make it plain that our inquiries as to rents, produce, &c., are intended to supply tests with a view to asserting ourselves that the Government standard is not exceeded, the real ground of enhancement being in all cases a material increase in resources.

General considerations on which the revision is based.

Considerations which prepare us for the results, and indicate the extent to which we are likely to be able to alter the demand of the present time.

The principal of these are the increase or decrease of cultivation, and of the means of production, the alterations in the price of agricultural produce and the general improvements in resources and condition of the tract under the expiring Settlement.

Taking these in order, then, the following figures from the statement in para. 6 of Mr. Davidson's report show the and in the means of production.

Taking these in order, then, the following figures from the statement in para. 6 of Mr. Davidson's report show the area at that time still available for cultivation, and I add beneath the proportions as shown by

the papers of our new survey :-

Beti		Total area.	Cultivated.	Culturable.	Barren waste.	
Regular 1850 Per cent	***	***	875,968 100	666,503 76	133,068 15	76,397 9
Revised 1880 Per cent.		•••	882,167 100	729,009 83	86,664 94	66,494 71

The "former" return given in our Appendix I differs somewhat from the above details of 1850; but there have been changes in the limits of the district. The increase in cultivation has been for the whole district nearby 8 per cent.; and there is now 9½ per cent. of arable waste returned.

The increase is thus distributed over the three tabsils-

Samrila ... 5 per cent.
Ludhiána ... 7
Jagráon ... 10

The percentage is highest in the Pawadh and Jangal Assessment Circles Ludhiana tahail and in Jagraon. Notwithof the standing the figures, I think that there is little room now for further extension, and that the margin left at the Regular Settlement has since been filled up. It is impossible that a strictly correct return of culturable area should be prepared, for what is technically known as the margin of cultivation must vary here as elsewhere with the prices of agricultural produce. With a rise in prices land that would not before have repaid the expense of cultivation may profitably be brought under the plough, and much of our culturable waste may be at present such that its cultivation would only yield a return if there were a further rise, although it is not strictly correct to call it unculturable. Nearly onethird of the culturable land of our returns is in the Bet, where it is more difficult than elsewhere to say of much of the waste that it is or is pot capable of producing a crop that would repay the cost of cultivation, In the Dania the culturable consists of areas left for grazing, which are of considerable extent in some of the outlying and western will goe, but generally very small patches, just enough for the cattle to stand in.

The only other way in which the productive power of the land has been increased is by the addition of the means of irrigation. The following statement of irrigation and of macourt wells shows the extent of this in each tabeil:—

	SAM	RALA.	LCDH	ITAWA.	Jaon	ADN,	TOTAL		
Tangil.	Arca irri- gated.	No. of Wells	Area irri- gated.	No. of Wella.		No. of Wells.	Area urri- gated.	No. of Wells.	
Regular Settlement	44,653	8,647	43,979	3,233	14,009	1,080	1,02,641	6,630	
Now	46,618	2,756	46,693	3,916	16,657	1,356	1,09,895	7,967	

the purchasing power, has not advanced; and that a maund of wheat or grain has the same exchange value now as it had twenty or thirty years ago. I do not think that any one will assert more than this, If it he recognized that we have inherited a system of land revenue under which Government was entitled to the rent of the land, but has surrendered in favour of the proprietary rights which it has created first 20, then 83, and finally 50 per cent. of this rent, I think it might well be said that our treatment of the cultivator has been most lenient, and that we might claim for Government the full present value of the portion which we have retained. But this argument may be objected to as merely theoretical; and we could enforce it only in the case of large proprietors taking kind rents from their tenants. Competition cash rents exist to a very limited extent, and they have risen, and even now vary with prices; while the rates of rent in kind also, though generally fixed according to custom, are, so far as I can discover, higher than they used to be; besides that the increase of prices directly enhances the value of the proprietors' share. But there are few tenants in the district depending solely on the land that they rout; and we must not lay too much stress on the argument to be derived from what they pay as applied to cultivating proprietors. What we have really to consider in this connection is the extent and character of the surplus produce disposed of by the cultivating proprietors of the district, and the excess of their receipts over expenditure; for of course much of the price of the surplus produce must be spent by them in the purchase of articles which now cost much more than they used to. Where proprietary and cultivating rights are combined, the result of the rise in prices may be absorbed by an increase of the population and by a rise in the standard of comfort. In this district the increase of population has probably been covered by the extension of the area and means of production; but the standard of comfort has undoubtedly risen; and it is for consideration how far this rise has encroached on the profits of cultivation, and whether the agricultural population have not gradually accustomed themselves to live at a rate so much higher than they used to, that it would be dangerous to increase the burden of their taxation. What were not necessaries to them before may have become so; and it is only luxuries that they may be able to forego in order to pay an enhanced revenue.

Conclusions to be drawn from the rise of prices (consumption at so much a head of the population, and the resulting surplus, for there are elements of uncertainty in each of this report about its produce, and again about its trade it will be seen that the District may be divided roughly into two parts—the western, producing only the coarser grains of the spring and autumn harvest; and the eastern, in which are grown the higher staples, sugar, cotton, and wheat, in addition to maize and the common unirrigated crops, the latter of which here cover only a small portion of the area. There is an exchange of products between the two parts.

The cultivators of the eastern villages do not in many places (e.g., the Samrala Bet) grow enough of the coarser grains on which they almost entirely live, and have to supplement their home supply by purchases from the traders of the west; but as a rule the produce of the sugar, cotton, and wheat crops is turned into cash, which goes in the payment of the Government revenue, the celebration of marriages, the purchase of cattle or of such commodities as the people have to buy (e. g., salt, metal, atensils, clothes, &c.) The rise in the prices of the inferior grains of the west, the autumn millets and pulses and wheat with grain ("berra"), has been relatively much greater than that of the higher staples of the east; and the export of the former is enormous. result has been a great influx of wealth into this part of the country. I have elsewhere described the signs of comfort and prosperity to be found in the villages of the Jagraon and of the western part of the Ludhiána tahuil; and their present condition is entirely due to the profits made during the last ten or fifteen years from the export of One has but to look at the houses, clothing, jewelry and cattle of these Jats, and to inquire what they spend on marriage and other celebrations now, and what they use to, in order to be convinced of the extent to which they have profited by being able to dispose of their surplus grain for nearly double at much as it would have fetched thirty years ago. In the east there are not perhaps such patent signs of prosperity; and some tracts are not particularly well conditioned; but there has undoubtedly been everywhere a substantial increase in the wealth of the agricultural population due to the enhanced value of the produce that they dispose of In noticing the Assessment Circles in detail I will describe the condition and resources of each; and I need not pursue this subject further here.

We now come to the more particular operations of assessment. A separate report was submitted on the Assessment Circles. revenue rates proposed for each of the three talistis according to the directions in the Rules under the Land Revenue At and inside of the talsals the villages were first grouped for assessment purper is. The division into Assessment Circles made at the Regular Settlement did not follow any rational principle; and the supposed necessity for adhering to the old pargana divisions made it practically useless. We have now in each tabeil adopted the natural features of the country described in paras. 7 to 9 of this report as the basis of our arrangement. The villages of the low-lying Bet tract were first separated off. The Ludhiana Bet was rather too extensive for convenience; and, as there is a great difference in the produce of the upper and of the lower portions of it, a sub-division was necessary; while of the former I further threw into a separate class those villages which have land subject to annual inundation (" mand" or "kacha"), as the area is of greater extent here than elsewhere along the river and differs widely from that part which is removed from the river ("packa"). In the next place the villages in the strip of sandy soil along the "Dha" or Ridge over the Bet could not come into the same class as those further inland; and were placed in a circle by themselves. In Samrala and Jagraon the remainder of the tabell was of so uniform a character

that there did not seem to be any necessity for sub-dividing it further. Such differences as exist between village and village are due to the greater or less proportion of irrigation or of poor soil, and these are points that adjust themselves in an assessment by rates on soils or classes of land. The good and bad soils are not peculiar to localities, so that the only sub-division possible would have been according to classes; and this I was unwilling to adopt, as it is open to many objections. The uplands of Ludhiana stretch much further south than those of the other tabsils, and there is considerable diversity in the natural features. The outlying "Jangal" villages, with a small rainfall and no irrigation, naturally fell into a group by themselves; and of the remainder there is such a difference between the south western corner about Pakhowál and the rich tract round Malond, that the separation of these was necessary; and there was left the upper portion, corresponding to that of the other tabsils.

The low lands in the vailey of the Satlej are everywhere known as "Bet," while the land exposed to the direct action of the river is called "Kacha" or "Mand." The uplands are generally spoken of as "Dháia," or land beyond the high bank ("Dha"). Its sub-divisions I have described in para 10. The tract immediately over the Bet has been called "Lower Dháia," and that beyond it "Upper Dhaia," although the words lower and upper are not perhaps very appropriate. In Ludhiana tahail the tarms "Jangal" and "Pawadh*" have been applied to the outlying villages and to the rich country about Malond respectively, while the tract round Pakhowal has been termed "Tihara," or intermediate between them. I have carried the names Lower and Upper Dháia into the Jagraon tahail for the sake of convenience. The assessment circles then are

Samrála.	·	Ludbiána. स्टामान नपुन	Jagránn.
Bet	••	Bet I Kacha, Bet II.	Bet.
Lower Dháin	•••	Lower Diain	Lower Dháia.
Upper Dháin	•••	Upper Dháia	Upper Dháis.
		Pawadh. Tihara. Jangal.	

203. The classification of soils has already been described (para 97);

and I have shown how we got rid, as far as possible, of the very elaborate sub-division of the Regular Settlement, and substituted one founded on a few broad distinctions.

This word really means "Eastern."

† In Jagraeon the land over the Bet is called "Dhais," and that further south either "Robe" or "Jaugal."

This was the result of a good deal of correspondence, and much attention was bestowed on the subject with a view to obtaining reliable returns.

In the uplands the first difficulty was to determine what land should he classed as irrigated, and what as unirrigated. Irrigated and unirrigated. About nine-tenths of the well land there can be no question; but the area of irrigation from a well is nowhere strictly defined, as in some districts. The fields immediately round the well are watered regularly; but amongst the outlying ones irrigation is constantly being shifted about, especially where the well is at some distance from the village site. In some places to the south-west it is the custom to irrigate the fields on one side of the well this year, and those on the other side next. There is thus a considerable area over which the irrigation fluctuates; and it would be a mistake to return either the whole or any portion of this as regularly irrigated. To avoid the difficulty we recorded the area actually irrigated in the year of measurement; and the results show that we have thus obtained a result that is reliable as an average. To accept the entries absolutely as a basis of assessment for each field would give rise to errors; and, where the assessment of the village was distributed over the holdings by irrigated and unirrigated rates, we had often to make further inquiries; but such cases were not common. For the assessment of the village and of the circle the returns were quite reliable, as they gave the average area of irrigation, and this was all that we required.

From what I have written in Chapter IV it will be seen that the rich cultivation lies close round the site; and that the " Nigh" and " Khalia" fields of the more distant wells receive little manure, and do not ordinarily bear two crops in the year. In the former Settlement each field was separately classed according to the crops growing in it at the time of measurement; but this method was open to obvious objections, and led to many abuses and Profiting by the experience of the past we have attempted inequalities. noted by more than to class the area of each well according to its situation and the crops grown on it. This work was done by the Deputy Superiutendents and checked by the Superintendents, the Extra Assistant Settlement Officer, and myself. It was a very easy task with the aid of the village map to write off on the spot that such and such wells round the site were to be classed as "Niái" or first class, and that those outside of them were "Khális" or second class. The Patwári had then merely to fill in the entry for each field according to this. The classification was used in very few cases for the internal distribution; and, with such a large area of irrigation as there is in Samrala and parts of Ludhiana, it was necessary to have a sub-division for assessment purposes. The original meaning of the word " Nisi " is " adjoining the village site," and the position of the land is what determines its value. It is not meant that every field of a " Nisi " well is regularly twice cropped; but most of such fields have their turns of bearing two crops (or the equivalent) in the year. The difference between the two classes of irrigation is seen by the

following analysis of the crops grown in each 100 acres of "Niái" and of "Khális" well land in the Upper Dháia circles of Samrála and of Ludhiána.

	Tanbie.			SAMI	IATA.	Lede	IABA.
	Class.	,		Niái.	Khálie.	Vist.	Khális.
Total of Crops	•••			136	111	157	114
Of which Sugar	161	444	•••	15	12	16	9
Cotton	•••	***		13	11	8	15

"In unirrigated Dháia lands three classes were at first adopted, viz., "Dakhar," "Rousli" and "Bhur;" but, Unirrigated lands : Dhais. as the difference in value between the first two was soon perceived to be very alight, and the agricultural mind was much exercised by the distinction, we gave it up. Between good loam and poor sand it was necessary to retain some distinction, because of the very irregular manner in which the sand hills are distributed. Thus the whole area of one village may be of the poorest soil, while that of the adjoining one is fine loan. It was impossible to frame our As-essment Circles according to these soils, as good and bad villages are intermixed all over the uplands, except in the Lower Dhaia Circles which lie in the vicinity of the High Bank. Although the sand drifts are not confined to certain localities which could be marked off in circles, they are generally more or less continuous; and the good and bad soils lie in zones (called " har " or " louns "). The poorer lands are the exception; and it will be seen that the whole area returned "bliur" or saud is only 28 per cent. of the whole unirrigated Dhaia area. In many villages there is not a single acre of poor soil; and, where sand does occur, the surface is usually uneven, and no question could arise as to most of the fields. The classification was actually done thus. The Munserius and Deputy Superintendents marked off at the commencement of measurements for each village on the spot with the aid of the old map the zones of "bhur" land; and, as in the case of the irrigation, the Patwaris had simply to fill in the fields. The only doubtful fields were those along the edge of the "bar" of sand; and, as the "bhur" area is limited, these would not amount to more than one or two in a hundred of the total area of cultivation. In such cases it was necessary to trust to the discretion of subordinates to some extent, for there are many fields that no two persons would class in the same way. Constant supervision was exercised by the Superintendents, Extra Assistant and myself; and the soil entries were carefully checked at the same time as the measurements of each village.

In the Bet the area of irrigation is very limited, and there are no such natural differences of soil as could conveniently be adopted. At the time of measurements the lands were shown as flooded or not ("sailab" and "barani)" according as they were within or without the range of the floods from the river. Afterwards, when some classification appeared necessary for assessment purposes, we marked off for each village the area of higher cultivation, i.e, that on which two crops or single ones of sugarcane or cotton are ordinarily raised. This is generally fixed and well recognized by the people themselves, and lies immediately round the village site or in plots where the quality of the soil is known to be superior. This highly cultivated land we called "dofasli" and the rest "ekfasli." "Dofasli" fields do not necessarily bear two crops every year, for the manured area is shifted about from year to year and fallows given; but they all do so in their turn. "Ekfasli" is the outlying land which seldom or hever bears more than one crop. Inquiry was not made as to single fields; but the Deputy Superintendents and Superintendents marked off on the map of each village the dofasli plots with the aid of the crop return of two years in the case of Samrála, and of three years in the rest of the district; and the results were checked for each village by the Extra Assistant and myself.

204. Having obtained a classification of the soils in each tirele we next proceeded to work out revenue received Bevertne Bates: Guides in framing them; those of the Regular Settlement. such as would give the result indicated by the changes in the resources and the general condi-tion of the tract, and by the produce estimates Village rates. hereafter to be described; and in determining these we had as guides, first the revenue rates used in the Regular Settlement These, as I have shown in para, 190, were merely two-thirds of the estimated rental of each class of soil; and they were to some extent useful, being the result of good deal of inquiry made 30 years ago. The rates at which the village assessments have been distributed on the land or between the proprietor, during the last 30 years would be expected to afford most reliable information as to the value attached to each soil by people themselves; but the classification of the Regular Settlement was not generally made use of for the purpose of internal rating, and the details are meagre. 205. The statistics of rent are contained in Appendices IIa. and

Cash rents now paid.

b. of this report; and from these it will be seen that the proportion of the total area of the land paying proper cash rents is only 5 per cent. of the cultivation, that is after deducting from the areas shown in Appendix IIa. land of which the rent is for various reasons merely nominal. These competition cash rents are shown in Appendix IIb. The area being so small, we must be careful in drawing deductions from them; but they are not to be absolutely rejected. The former rulers of the country took a large share of their revenue at rates on crops; and this revenue, which was a full rent really, has survived in the cash rates now paid for land taken for the cultivation of cane, maize, cotton and other crops. Although, as will be seen from the first few columns of Appendix IIa, the greater part of the cul-

tivators of land returned as held by tenants have either proprietary or permanent rights in other land, still no one would pay for the use of land so much as would make it impossible for him to recoup the cost of cultivation and have something over.

There are three methods of fixing cash rents. A portion of a

Different forms of cash rent: "bigah" rates and consolidated rents; cash rates on orops. proprietary holding may be let for the year at so much on the local standard of area without regard to the crops to be grown; or the area may be approximately known to both parties and a lump sum (called "chakota" or "chakawa")

be agreed on without actual measurement. In the first case the area is subsequently paced out, and the rent of the whole calculated at the rate agreed on, a third party being called in to settle disputes if neces-The third method is where a field or area is rented for the purpose of growing a certain brop, and a rent on the crop is charged at a sertain rate on the local standard of measure, the area and rent being wabsequently determined when the crop is standing. Between ordinary agriculturists, where the transactions are very small, one or other of these three forms of rent is adopted; but where there are large proprietors, such as the Kheri Sardars in Samrala tabeil, the old Sikh method of collecting revenue is still followed, and the tenant agrees to pay at crop rates on whatever he grows in the kharif harvest. In explanation of the headings of Appendix IIb. I should say that, where the land of the holding rented is all of one description, we have been able to enter the details under the proper class; but in most of the holdings rented at an all round rate or for a fixed sum there are several classes of land, and details have to go into the column of "Mixed." The cash rents used in our assessment reports were recorded at the time of survey (1878-79) from the statements made by the parties: but as our inquiries were known to be with a view to assertment. these were not very reliable, being generally much under the mark. Such details of rents as were to be found in the annual papers proved quite valueless, as no attempt had been made to keep up a proper to d of them.

The rates of rent prevailing throughout the district do not differ Rates of rent prevailing.

Wery much. Irrigated land will everywhere in the Dhaia pay from Rs. 2 to 3 on the kucha bigah, i.e., from Rs. 9-8 to 14 an acre. The rent of mirrigated land of ordinary quality is from Rs. 1 to 1-8 a kacha bigah (Rs. 4-12 to 7 an acre); but the poorer soils run as low as 12 annas and 8 annas. The proportion of these poorer soils is, it must be remembered, small; and I do not think that on the average nuirrigated land pays less than Re. 1 a kacha bigah, or nearly Rs. 5 an acre. In the Bet the first two kinds of cash rent are almost unknown.

The crops which ordinarily pay "zabti" or cash rents are cane, maize, cotton, in the irrigated uplands, and the first of these in the unirrigated lands of the Upper Bet; and in the unirrigated lands of the Dháia the autumn pulses and millets whether sown for fodder or with a view to grain also.

The lowest rate paid for sugarcane land is Rs. 2-8 a kacha bigah, and this is only in the Bet. The average in the Dhaia is about Rs. 3 or 3-8, while in a few large villages it runs as high as Rs. 5. The general rate is about Rs. 14 or 15 an acre. This rent is for the use of the land during one and a half years usually, as not more than one crop can be got into the two years besides the cane.

The rates for maize and cotton are from Rs. 1-8 to 3 a kacha bigah, and average about Rs. 10 an acre in the Maize and cotton.

Dháin, and something less in the Bet.

Charri and the mixed fodder crops of the kharif Re. 1 a kacha bigah is usually paid, unless the soil is poor, when the rate is as low as eight annas or twelve annas; but on the other hand it may go as high as Rs. 1-8. The usual rent for "ronsli" land is not much under Rs. 5 an acre.

In the Bet lands below Ludhiána, where there is some very fine market gardening, land will rent as high as Rs. 20 to 30 an acre; but the above rates are those usually paid throughout the district.

Relative value of the most important points in framing revenue rates is to ascertain the relative value of the different soils.

Relative value of the soils (para. 64 of the present edition of the Directions to Settlement Officers). In doing this we must take into consideration all the means of information referred to in the preceding paras, and also the value of the rent when paid in kind. Thus, taking ordinary unirrigated land as the unit, what will represent the value of the two classes of irrigated and of the poor unirrigated land? I found considerable difficulty in reconciling the results suggested by the different ways of looking at the matter. For example in the Upper Dhain circle of Samrala we have the following proportions approximately from—

- (1) The former revenue rates.
- (2) "Bách" or distribution rates.
- (3) Coop rents now paid.
- (4) Cash rents now paid.

B oil.			(1)	(2)	(3)	(1)
Unirrigated Rousli	•••		1	1	1	1
Simple (" Khális") wall		•	21	2	21	13
"Niai" or (1st class) well	•••		5	4	34	21

Result No. 4 will appear at first sight unaccountable; but there can be no doubt about the facts that for irrigated land the rates of rent in cash are little incre than double those for ordinary unimigated land, while the value of the kind rents of the latter, so far as we have been able to determine the usual rate of yield, suggest a much greater differ-

ence. The explanation of this is not far to seek. There is a decided preference for unirrigated land, because the labour of cultivation is so much lighter. A proprietor who has already some land can add an acre or two of unirrigated cultivation to his holding without having to increase the number of his cattle and without much additional labour to himself, while for irrigated land new cattle and much heavier labour are required (I speak of the Dháia). The recent rise in the prices of the rain crops, which has been comparatively greater than in the other sorts of produce, has also tended to raise the rent of unirrigated lands; and cultivators are willing to pay highly for such land in cash on the chance of making large profits on the sale of the grain.

Produce estimates.

Produce estimates.

Produce estimates.

Produce estimates.

Produce estimates.

Produce estimates.

Produce estimates and the results ed to each soil in each eircle, and the results ed to each soil in each eircle, and the results en account. I may say that I have described exactly the procedure estimates have been worked out in each case address. The produce estimates have been applied to them as tends that the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment. In parts 18-5% the result does not exceed the standard of assessment does not exceed the standard of assessment.

208. The first step in the produce estimate is to calculate the amount of the gross produce; and to do this we must know (1) the average area under each crop, and (2) the average rate of yield for Gross produce: each soil and crop. On these two points elaborate instructions were issued by the Commissioner, Settlement and Agriculture, in 1879, by issued by the Commissioner, Settlement and Agriculture, in 1879, by issued by the Commissioner, Settlement and Agriculture, in 1879, by issued by the Commissioner, Settlement and Agriculture, in 1879, by dines estimates were supplied. It had previously bean considered the estimates were supplied at the time of survey the every t growing and the previous one (or the fallow as the sate might be). But, apart from the uncertainty as to crops which were not actually on the ground, this method took no account of the fluctuations in the agriculture, which are in unirrigated lands very considerable. The year of survey may be a dry one, and a considerable area may remain uncropped, although really cultivated and ordinarily sown, or the return may be above the average. In order to obtain a correct statement of the area ordinarily cropped a field to field inspection (girdávari) of the crops was made, and the result recorded in each Tahsil for every harvest up to the time that the Assessment Report was submitted. The crops were written down as they stood for the Spring and again for the Autumn harvest; while tobacco, melous, &c., which are grown at odd times in a small area, and are a third harvest between the Spring and Autumn, were also recorded separately. The average of these returns, so far as

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available at the time of writing the Assessment Report, was taken as the foundation of the estimate. In the Samrála Tabsíl the observations extended from Kharif 1878 to Rabi 1880, and in the other Tabsíls to Rabi 1881: giving in the former case four harvests, and in the Intersix, actually recorded as they stood. The average of two years harvests is better than returns of only one year: and as we could obtain no reliable details previous to 1878 when our work started, and the submission of the Assessment Reports could not be delayed, we had to be content with what we could get. Five to tan years records would be required for a perfectly reliable average. Tabsíl Samrála, where the observations covered the shortest time, has in the uplands 40 per cent. of irrigation and a high rainfall, so that the elements of uncertainty are less there than in any other Tabsil.

There are a few crops on which rents in cash have always been paid, or of which the produce could not be Crops on which cash rents estimated with any approach to accuracy. The (" sabt!") are paid. principal of these are sugarcane and "charri" or fodder, which paid revenue at cash rates under all former rulers; and it would be very difficult to make an estimate even approximately reliable of the value of the produce of these two crops, as well as of indigo, tobacco, vegetables, san, &c. In our produce estimates the crops of each harvest have been divided into (1) those on which kind rents are ordinarily paid, and (2) those on which cash rents are ordinarily waid. From the prevailing rents paid for cane and chart average rates were scepted; while for the minor crops we had the informassus amplied by the papers of the Regular Settlement and by our present inquiries. These cash rates gave us at once the full rent for the crops; and we had merely to take one half of this as the estimate.

But by far the greater part of the crop area comes under the head of (1), and an actual produce estimate Average rate of yield: had to be made. In the matter of obtaining experiments. reliable data for the average rate of yield the second change introduced by the instructions referred to in the last paragraph was that, instead of a Settlement official cutting down a few square yards of standing crop here and there, and weighing the produce there and then, we selected for experiment in each harvest good sized holdings such as would fairly represent the average cultivation. These were pat in charge, sometimes of paid watchers and sometimes of respectable agriculturists; the whole of the crop was cut and stacked according to soils and crops; and the produce weighed in the presence of the owner and of the people by the person in charge of the experiment. Upwards of 50 or 60 holdings, averaging five or six acres in area, were treated in this way in each harvest, every Munserim having one in his own circle, and the Deputy Superintendents and Superintendent, each two or three. The proposed localities were in all cases reported to me for sanction before the experiment was made, and a different village chosen every imprest, so that the results may be taken as covering the greater part of the District. The Extra Assistant and I did

not work hy holdings; but, when the crops were nearly ripe in each harvest, we selected areas several acres in extent which appeared to us to be of average quality, and had the whole of the produce weighed under our supervision. Except for this, none of the experiments were selected after an inspection of the crop, so that subordinates had no opportunities of picking and choosing; and, as the time covered was from the Rabi of 1879 up to that of 1882, inequalities due to seasons above and below the average must have disappeared in the averages as far as it was to be expected that they should. The following is a statement of the number of experiments and the area which they covered at the time that the Assessment Report of each Tubsil was submitted.

Mahali.		No. of barvents.	No. of experiments.	Arca.	Average area for each experiment.
Samrála	***	3	161	-491	2
Ludhiána	**	5	850	1,838	3
Jagráon	•••	5	249	863	8
Total			910	3,192	1 3

In Appendix III are embodied the results for the principal crops of the whole of the experiments made, including those subsequent to the anbmission of the Assessment Reports. In the case of Samrais the materials for the average rates of yield (assumed) were perhaps somewhat deficient, and a few of the results would have been modified with better information; but a comparison of the two sets of figures in Appendix Ill will show that we have not at all events over-estimated the produce.

Other means of informstion as to the yield and

- 211. Besides these experiments we had several sources of information to guide us in fixing the average rates of produce :--
- (1.) The rates adopted at the Regular Settlement, though not generally very correct, were still of some assistance.
- (2.) The patwavis' annual papers I found quite unreliable. They are supposed to contain the amount of produce taken by the proprietor and by the tenant where kind rents are paid; but it is impossible that this should ever be correctly recorded, for the patwarf must accept as true whatever the parties tell him.
- (3.) Some little information I obtained from the private papers of owners, but there are very few men whose properties are large enough for our purposes.

- (4.) The science of estimating the outturn of a field of crop is one which was possessed by many men under the Sikhs, as it had constantly to be exercised in the "Kan" or "Kankut" valuations; and most agriculturists can, if they choose, tell with great accuracy the yield of a crop. The more respectable men are generally willing to give reliable estimates.
- (5.) Cash reuts are sometimes paid for a few of the crops (e.g., maize, cotton) of which the rent is ordinarily taken in kind; and, where we have both forms of rent, we can use the cash rates as a check on the result of our experiments.

The want of a continuous record of agricultural produce and of resis is very much felt when one begins the assessment of a District; and it is not till the end of Settlement operations that anything approaching to certainty can be attained about the averages assumed. Had such a record been maintained for the five or ten years provious to Settlement we should have been in a very much better position.

Rates of yield adopted and those given by the experiments for the prin-

cipal crops.

212. It is not necessary that I should here do more than give the results of the experiments and those accepted by us for a few of the principal crops in the soils on which they are generally grown, and for fuller details I would refer to App. III. Wheat, for instance, is raised in the irrigated

lands of the Dhaia and the unirrigated lands of the Bet: while " berra" or wheat with gram (also barley with gram) is the unirrigated crop of the Dhaia for the Rabi. Maize and cotton in the Kharif take the place of wheat in the errigated Dissis and univergeted Bot lands; and moth, mung, &c., alone or mixed with charri, jode, &c., that of "berra." The following tables of the averages for maize, cottone, wheat, "berra" and moth &c. (the pulses) cover, it will be seen from Appendix IV, the greater part of the area returned as under crops "paying rents in kind."

				NIA	Mai Chàir	181			J	CHÁUI BET.	1 853	 نے			ERÉCIS CRAH	8 CB	¥H1		!		DOPABLI BET.	LI B	E.	H	REPASLI	HET
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dy experiments		<u>-</u>	1 1	122	5	<u>a</u>	977	2	8,	1 2	İ	1	*	1	1 1	1 2	1 2	2	8	<u> </u>	1 5	1:	1 =	1	3	1:
Assumed		 왕	22	200 280	S		\$	3	ğ	3	:	:	ğ	2	3	2	3	<u>8</u>	8	8	18	1 3	1 3	 	1 9	1 3
Area of experi ments		م	!:		**	=	<u>.</u>	:		φ	į ,	!	é	İ	1	13	17		1 2	*	1 =	1:	1 2	† ;	<u> :</u>	1 :
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Assimend	*	3 0 3 0 3		00g	\$	3		1	\$	\$	\$	\$	1	9	1	1 1			1 3	1 3	1	Ì	Ť	† -	<u> </u>	<u> -</u>

Abstract statement similar to the foregoing for "berra" (i.e. wheat mixed with gram) " moth," " mung," &c. (pulses).

			D	ÁKI	JAR	≜ N	D R	eve	LI		1				BHU	н.			
Crop		1	Low			DRA'						Lowe			Type				
Kame of Crop.	Soil, Circle and Tabell	Samrála	Ludhiaua.	Jagraon,	Ramreja.	Ludh:kus.	Jagráca.	Pawadh Luibian	Tibara Ludhiana.	Jangel Ladbians.	Pamrila.	Ladbisan	Jagraos.	Bamrals.	Ludhispa	Jagraen.	Pawedh Endhiens.	Thers Ludbiana	Jeagal Ludhians.
						2				Restoy as Grass)									Server a
	By experiment	#3 0	289	205	348	363	346	273	312	-	123	100	181	130	179	188	152	231	223
Gram.)	Assumed		2 1/1	220	190	320	330	260	280	260	1	140	140	-))(1)	190	14.	160	12-0
	Area of expe-	2.3	67.3	9.6	37 6	180	2187	84 6	00-	P2 3	6 2	313	93 /	5.0	82 3	34.8	1111	43.	29
1	By experiment	jes	90	185	123	131	116 116	117	143	134	91	120	06	100	130	148	**	130	273
(F)	Animatel	130	100	7	100	150	136	140	144	140	200	100	100	190	1:0	130	3 200	110	***
(reelad)	area of experiments	15-7	53	4.6	5 6	34	27 97	13	8-5	1	26.	5.3	5.8	44.	67:3	10 6	16 3	9.8	34

For the less common crops the data from actual experiment were deficient; but it was easy to assume reliable average of yield from the analogy of the more common ones and from inquiry.

Value of the total produce: prices adopted.

The subject of prices; and it is not necessary that I should add much here. In working out the value of the total produce obtained in the last two paras, we have applied the averages of the prices obtained for agricultural produce by the cultivators during the last 20 years,

The last 15 or 20 years show no very violent fluctuations; but there has been a steady rise on the whole; and it would be perfectly safe to assume that during the next 20 or 30 years prices will range higher than those assumed by us. The following statement compiled in the office of the Commissioner Settlement and Agriculture shows that the rates adopted by us agree with those accepted in the recent Settlements of other Districts of the Province.

Average prices of principal articles of agricultural produce assumed in recent Settlements. (The prices assumed for the Sadr Tuhsils are quoted in each case).

	Pecion	F803C W3	ICR					in a mai	PRE BO	PBW.				
	DEC	ENAGE W	' 48	,	Rabi Pr	agnoe.					Eharif.	Prod	:1C0.	
ristriot.	From A. D.	To A. D.	Mr. of years.	W beat.	Bariry	Gram,	Wheat and	Mostard seed.	Unelesped Lotton	Maise.	Juhr.	Physics	Hoth	7.0.
ion all side inna i i i i i i i i i i i i i i i i i	1864 65 1863 1 65 1843 1864 1864-65 1864-65	1873 1979 1871 1872	201 201 201 201 201 33 30 30	3 3 27 3 31 to 23 28	41 44 41 39 41 to 41 34	36 36 37 31 31 to 31	33	•	11	31 82	39 36 36 36 40 to 41	7 31 31 34 37 37 37	35 35 35 37	16 10

Fodder crops.

The second of the Directions to Settlement Officers it is laid down that "crops grown as fodder for the cattle employed in agriculture should, as far as possible, be excluded; as this estimate is intended as a guide in assessment." For the reasons given in paragraphs 87 of the Samrála and 44 of the Lindhian Assessment Reports I departed from the procedure usually followed. I quote the reasons given in the Ludhian Assessment Report:—

"It is usual to exclude from the produce estimates area under fodder crops. In Samrala I did not do this for the reason that the proprietor always charged the tenant rent for land under fodder. In this Tahsii, too, the cattle are fed on the stalks of maize, jodr, charri, and the straw of moth and of all the Rabi crops. The area devoted to fodder crops proper is minute in the Rabi, and there is usually no necessity for the cultivator to cut any of his wheat or barley for the purpose. There is grass to be had at most seasons; and he will rather mix moistened grain with the straw than green corn. The fodder crops proper are in the Rabi:—

" Metho"	and "S	Senji''	•••		2,318	
Currote		***	•••	•••	1,100	
	\mathbf{T}_{2}	rta)			3.418	Acres

They make up a very small proportion of the area of Rabi crops (about & per cent.); and are grown in small plots at the wells, following maize or cotton. A tenant gets no allowance for the area, but has to pay rent for it as for other land. Carrots are eaten by

the people themselves, and methe, &c., are often sold in the Lutthiana bazar as fodder for the cattle of the city. At the Regular Settlement sabti rates were fixed at Rs. 4 to Rs. 6 an acre for carrots, and Rs. 2 to Rs. 3 for methe, &c. Carrots have been included in vegetables (Column 18, Appendix IV); and I think we may leave them there as the area is only 1,100. I have not taken the methe &c. into account in this Tahsil. I have had a statement made out of the area of the Rabi grain crop (wheat and barley), which was cut and used as green fodder. This was written down when the crop was nearly ripe and no more could be cut; and the recult was an area of 1,588 acres, or less than 1 per cent. A good part of this area is in the Lower Dhaia and Bet; and most of this green corn must have been sold in the City, where it commands a high price. It is not unusual to sell it in the villages also; and, where a tenant is allowed to cut it, he has to pay the proprietor rent. I have, therefore, made no deduction on this account. It must be remembered, too, that the proprietor, at all events in the uplands, takes a share of the straw, which we have left out of account. The Sikh rulers used to take a share of the straw, and it was included in the Regular Settlement produce estimates.

As in Samrála I have taken a zabti or cash rate on the charri or

Autumn fodder crops
("Charri" &c.)

Autumn fodder crops
the grounds on which I propose to include it
in the produce estimate:—

- (1.) A tenant who sows charm has to pay a rent on it, generally in the Bet) a division is made of the standing drop, the held being measured out and the proprietor's share (one half or two little) being marked off on the ground.
- (2.) Native rulers always took a zabti rate on the crop, from 6 annas to Re. 1 a kacha bigah (Rs. 1-3 to Rs. 4 an acre). In the produce estimates of the Regular Settlement it was included; and crop rents of Re. 1-4 to Rs. 2 an acre taken. These facts show that a share of the charri crop, or a cash rent for it, is usually received by the proprietor from the tenant.
- (3.) In the Bet there is seldom any yield of grain from charri, but in the Dhaia there always is; and, if we keep out the fodder, we should include this. The amount of grain depends on the season and the people themselves don't know quite what they get, for the heads are picked now and again by the women.
- (4.) Finally, if any deduction is to be made on account of the charri crop, it should be made from the whole half asset estimate of the Circle, and not from that of the unirrigated soil. Each holding is made up of irrigated and unirrigated land; and the charri grown in the latter feeds the bullocks used for the whole."

Merely to exclude the charri, charri and moth, &c., crops would, for the fourth reason given above, throw the whole of the estimates out, because the deduction would be made from that of the unirrigated soils, while the fodder is actually consumed by the well cattle. In paragraph 13 of his review of the Samrála Assessment Report the Financial Commissioner concurred in these views, and thought that "as a general rule Settlement Officers should follow in this matter the practice which prevails between proprietors and tenants-at-will."

Exclusion of straw.

Exclusion of straw.

We should include in the estimate the value of the share of straw received by the proprietor from the tenant. The custom of the Sikh rulers was to take as their share of the produce, when the revenue was paid in kind, a portion of the straw slightly less than that fixed for the grain; and proprietors at the present time continue the practice everywhere except in the Bét. Thus a tenant paying at the rate of two-fifths of the grain also gives one-third of the straw; or, if the share of the grain is one-third, that of the straw is a quarter. The real reason for both the above practices, taking a cash rent on fodder crops and a share of the straw where rents in kind are paid, is that, owing to the great fertility of the seit and the present protection of it and this appears to fully justify use departure from a procedure followed in districts where such crops have always been to some extent exampted from revenue and rest.

215. In paragraph 128 I have given an account of the village artizans and menials (kamins), and the Deduction for the dues allowances made to them. Under former rulers, when the revenue was realized in kind, kamins or village a small portion of the whole produce was first set apart for the kamine and for some servants of the chief, and the remainder was divided between the cultivator and the "Sarkár" in the proportion fixed. With our cash demand this custom disappeared, and the kamins receive their allowances from the cultivating proprietors in a lump at each harvest. There is none of the elaborate division of the produce such as is customary in other Districts; and, even when a tenant pays his rent in kind, no deduction is made from the common heap; but each party gives his hamons from his own house a fixed amount of produce and not a share of the whole. I have remarked that the tendency is for the cultivators to alter their agreements with the kamins, and to cut the allowances down. In fact these allowances are generally ceasing to be determined by custom. The calculations made by me gave the result that of the whole produce from one-twentieth to one-sixteenth was given to the kamins, and I have fixed the deduction that should be made on this account from the total produce at 7½ per cent. It may be open to doubt whether any deduction at all was necessary, for a tenant paying in kind has to give to his kamins a portion of the share left him by the proprietor; but I did not consider it advisable to depart here again from the usual procedure. I may mention that in places proprietors have taken advantage of the old custom and realize a proportion (1 or 2 seers in the maund) of the total produce

under the name of "kharch" over and above the share of the produce agreed on; but this, though nominally for servants and kamine, is really only an addition to the proprietor's share.

216. The proportion of the produce now taken by the proprietor from the tenant must be our guide in deter-Rates of rent in kind. to a proprietor cultivating his own holding. The area returned as paying rents in kind is 10 per cont. of the whole cultivation. The rates prevailing are as follows: In the Bet one-half of the grain is taken without a share of the straw; and sometimes two-fifths where the land is irrigated; but even in the case of well lands the proprietor ordinarily realizes at the higher rate. A share of the straw is taken in a few villages. In the Dhaia the rate for irrigated lands is one-third of the grain with one-fourth of the straw; and for unirrigated lands one-half of the grain is taken as often as two-fifths, very seldom one-third; while the proprietor's share of the straw varies from one-third to a quarter. I have noted in the last paragraph that the proprietor in addition to his proper share of the produce takes also a portion under the name of kharch; and it was not possible to include this in our rent returns. In places, too, the proprietor takes from the tenant a portion of the revenue demand as well as a share of the produce. Our calculations of the average share received by the proprietor are thus somewhat under the mark; but it is the actual average given by the rent returns for lands held by tenants-at-will paying in kind.

217. In Appendix IV is given only an abstract for each Tabeil of the produce or half-asset estimate, as it would have Proportion of the estimated half net profit to the taken up too much space to show the details for value of the total produce. each circle and soil. In the preceeding paras. I have endeavoured to show how in regard to crops paying rents in kind we have ascertained for each circle and soil (1) the area under each crop; (2) the average rate of yield, which together give the gross produce; and (3) the value of this at the average prices of the last 20 years. Then (4) from this value of the total produce a deduction was made on account of the dues of the village menials (kamine) paid out of the gross produce, and (5) of the remaining value the proprietor's share was calculated at the prevailing rates of rent in kind; and half of this was taken at as the half-asset or produce estimate for the soil. The following statement is given as showing the ratio that the estimated value of the half proprietor's share bears to that of the total produce, and the manner in which the half-asset estimate is derived from that of the whole value of the produce:-

Tabeil.	Азивынана Севоли.	Total produce.	Deduction for kamins.	Irrigated or Unirrigated	Owners' share at aver- age rate of rent in kind.	Do, of whole produce after deduction in col. (4)	Percentage of balfas- ass estinic to gross value of produce.
<u>.</u>	Bés	100	7.5	irrigated Uncrigated	1 1	48 78 46 35	25 12
Samralla.	Lower Dháis	100	7-8	l lerigated i Unierlyated			***
• (Upper Dháin	100	7.5	Irrested	36	44·3 36	17 5 18
(Pôt I kucha	100	7.5	Treigated	1 4.5 1	46 25 46 25	23-12 23-12
	Bét I packs	100	75	, lengsted	1	44.4 44:25	22.8
أد	Bét 11	100	7:5	i lerrented	63	39 N4 42 51	10 41 21 37
4	Lower Dhain	100	75	! !rrigated	1 1	•••	***
Ladilles	Upper Dháin	100	7.5	Irrigated	30	34-8 34-14	37·18 37 87
	Pawaffi	100	15	lerigated	. 🕦	20-23 24-2	12-16 17-16
į	Tibára	100	7.5	Irrigated	اشما	34°3	17 18
Į	Jangal	F00	7 5	Irreguled Unirriguled	3 49	97 93 87-93	18 96 18 94
4	Bát	100	7.6	Irrigated	17 1	44.4	13 3
lagrand.	Lower Dháin	100	7-8	University of the state of the	·}} }		
4	Upper Dhais	100	7.5	languaged	. 80	38 6 38 8	143 194

Account of the assess. assessments of each of the Tahsiis and Circles; ments of each Circle. and in the following paragraphs I have embodied so much of the details given in the Assessment Reports as appear likely to be useful for reference.:—

TAHSIL SAMRALA, BET CIRCLE.

219. This Circle contains 68 villages with a total area of 26,773 acres, of which 16,175 acres or 60 per cent, are General description : the cultivated, 4,511 or 17 per cent, culturable or " Mand ;" the l'acka Bet. recently thrown out of cultivation, and 6,087 or 23 per cent, unculturable. It consists in the first place of the land (called "Mand") immediately adjoining the Satlej and liable to annual inundation. The deposit left by the River is very fertilizing, and a rich clay soil is formed; but in places this is shallow and the under stratum of sand is soon reached, and land that looks very good may thus have a very poor yield. Beyond the mand the land is higher, and the soil of more accient formation and deeper (generally three or four feet.) Water is near the surface, and there is seldom lack of moisture; so that artificial irrigation is not wanted. The soil of this, the packa Bet, is generally a rich dark clay, very fertile, but requiring a great deal of tillage. In places there are sand drifts left by the

River, but these are rare. Under the High bank runs the Budha naha in the old bed of the Satlej. The land to the south of the Budha, between it and the High bank, is generally very good, as it rises away from the former, and the soil has a mixture of sand from the Dháia. On the other side of the stream there is a strip of land rendered permanently barren by the proximity of the water, or actually swamped.

Crops and hus- eipal crops are:—

Rabí 53 per cent.	Wheat	•••	***		43
Rabí 53 per cent	₹ Barley and masar		***	• • •	7
	(Others	• • •	***	•••	3
	Sugar Corton	•••	•••	•••	114
	Corton		•••		21/2
Kharif 47 per cent.	Maizo	•••	•••		15
Kharn at per cent.	Rice			,44	$3\frac{1}{4}$
	Fodder (charri) Others		***	***	8
	Others			• • •	31

In the villages of the packs the hard round the site generally produces two crops (wheat and maize) in the year, being heavily manured and fully tilled. Sugarcane is grown in selected fields, not necessarily close to the site. In the villages near the River the twice cropped land may be at some distance from the homestead, the people preferring to build on the higher ground, but cultivating their best land, which lies low, most carefully. Ontside the dofasti area a single crop is grown, generally of wheat in the Rabi, or fodder in the Kharif. Masar (lentils), or barley and masar, is sown in the newly recovered land of the mand. Owing to the floods an equal area cannot be sown in both harvests, and thus the greater portion of the cultivation is on the ekfasti harsila system, bearing a Rabi harvest year after year. Cotton is grown principally in the drier, and rice ("dhán") in the mand or flooded lands. The cotton crop is generally good.

The most important crop in every way is the angarcane; and it requires special mention, as the prosperity of the tract Видагсапо стор. may be said chiefly to depend on it. nothing remarkable about the method of cultivation, which has been described in detail else where; and an account has also been given of the manufacture of the rab into sugar, and the trade in khand, burah, &c. Enormous profits are made out of this trade; but the people who grow the cane have very little share in them, and are for the most part hopelessly involved in debt. The cause of this is to be found in the relation subsisting between the money-lender and cultivator. The latter can command almost unlimited credit, and it is generally necessary that he should have an advance on his crop, which has no return for more than a year. This debt he has to repay with interest; and in discharge of it he gives his rab, which is taken over at a price agreed on according to its quality between the parties, really at the price that the creditor chooses to fix. If the crop is successful a good part of the debt will be wiped out; but a fresh advance required; while, if the crop fails, the debt with compound interest gets too large ever to be cleared off, and the cultivator is in the hands of the money-lender.

Agricultural tribes and Jate; 23 per cent. of Mahomedan Rájputs; and 5 per cent. of Gujars; and it is much the worst feature of this Circle that 88 per cent. of the land is held by the most improvident classes. I do not think that there is very much difference in the character of the three tribes as far as the absonce of those qualities that go to make up a good "málguzár" or revenue payer are concerned; but the Jats are somewhat better than the rest, and their villages are in better condition than any others, except the two or three belonging to Hindu Rájputs and Sainis. Of the cultivated area 3,490 or 21 per cent. is held by tenants-at-will; and 1,386 or 8 per cent. by tenants with occupancy right; or in all 30 per cent. of the cultivation is by tenants. These belong for the most part to the same classes as the proprietors.

222. Our returns show that since Settlement 512 acres, or two per cent of the whole land, has been sold and that Sales and mortgages : impoverished condition of 2,040, or nearly eight per cent., is now in mortthe treet. gage with possession of the mortgagee. The percentages on cultivation are three sold, and twelve mortgaged; and it is probable that only cultivated or culturable land has been transferred. The average price of the land sold is Rs. 34 an acre; and the amount secured on mortgage, Rs. 33. The land transferred has gone almost entirely into the hands of strangers. Thus on the whole nearly ten per cent. of the total or fitteen per cent, of the cultivated area, has been transferred since the Regular Settlement; and most of it to the moneylending classes. These statistics are far from showing the whole indebtedness of the people. There are a few villages able to hold their own; but they are a small proportion of the whole. Some have gone entirely into the hands of the money-lenders, the land having been sold or being held in mortgage for such an amount that there is no chance of it ever being redeemed. There are colonies of bankers (Suds, Khatris, Banias) in Machiwarah and Bahlolpur who live entirely by lending to the Bet cultivators; and many of these classes have established themselves in the villages (Panjgraien, Sherpur, &c.) The amount of money owed on book debts is enormous. I have totalled it up in some villages, and find that it cames to Rs. 10 or 15 an acre. The villages are all small, averaging about 400 acres total area; and many are on the money-lenders' books for Rs. 5,000 or upwards.

There can be no doubt that the tract is in a bad way; and that a large proportion of the land is passing out of the hards of the old proprietors into those of the money-lending class: and there are many causes at work to produce this result. In the first place, the bulk of the people are improvident by nature, and

it is probable that if the land were in the hands of Hindu Jats they would be able to hold their own. The tract is one of the richest in the Province; and, if the people had the necessary qualities for tiding over an occasional; bad season, or could subsist without borrowing while the cane crop was growing, they would now be very well off. The ordinary cultivator is, however, so incapable of making his own terms with the money-lender that I believe he has to pay, or is debited, with Rs. 200 for every Rs. 100 that he borrows. I do not think that there is over population, for the density (600 a square mile of cultivation) is less than in the richer tracts of Hoshiarpur and Jalandhar. The produce is more than sufficient for the support of the people if it were It would be much out of place here to discuse any remedies for the condition of things described, and I will only say that, with a prosperous agricultural class, the Government demand might be very largely increased without exceeding the half net asset standard; and that at present the bulk of the profits of agriculture are finding their way into the hands of the money-lending class. I see no reason why, if things are left alone, the proprietary rights should not in time pass bodily away from the agricultural class.

Connection between this and Government revenue demand.

I can find nothing to show that the indebtedness is in any way to be attributed to the pressure of the Government demand. The manner in which the money-lenders have fixed on the

tract, and their willingness to advance any amount on the land, shows what a profitable investment it is. I do not think that a complete remission of the revenue would much benefit the mass of the sericulturists, who are too far involved to extricate themselves. A larger assessment might have the result of keeping off the money-lender; but I was not prepared to make any proposal in this direction. When the people themselves complain of their indebtedness, it is not generally with a view to having their assessment decreased; but they ask that some arrangement may be made between them and the money-lender. They attribute their difficulties, and rightly I think, to this that they cannot get the full value of their produce or cattle, and that their accounts are turned over and compound interest added so frequently. A small debt, which has at first been neglected, soon gets too large to be bearable.

223. There is an increase in cultivation of less than 2 per cent., plough-cattle are shown as being 8 per cent. in excess of what they were at the Regular Settlement; but it is clear that the condition of the tract is stationary, and that the produce-growing area has not been extended. Neither is there any apparent advance in the system of agriculture or in the productive power of the soil. An enhancement of the revenue must therefore be based entirely on the increase in the value of produce. Referring to the note on prices in Appendix XII, we find that there has been a rise in the prices of the three principal products (comparing the two periods of 20 years, 1840-59, 1860-79).

Per cent. of area.		Crop.	*	Per cent. of increase in price.	
48 .	Wheat			 58	د
18	Maize	•••		 62	
12	Sugar	***		 40	

On the other hand, the population increased between 1854 and 1868 by 14 per cent., and we have nearly the whole tract in the hands of the worst class of husbandmen, and a large proportion of these involved in debt.

Former rates.

224. The revenue rates adopted at last Settlement were:—

*			Unireigated.								
. 63	Irrigated.	Niáf sailáb	Rousli and Dákhar.	Bhár.	Jadid.	Qadím.					
Rate	3-10-0	3-10.6	1.6.9	0-12-2	0-9.6	0-4-8					
4164	188	4,638	10,804	25	338	4,619					

The execution announced was 9 per cent. under that given by these rates. Sail rates were used for distribution in only two villages and the details are.

ালাgated,	Niái Sailáb.	Rousii,	Bhár.	Jadid.	Quitina
Rs. As. P. 8 4 2	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
	2 11 6	1 5 0	0 12 0	0 8 8	0 4 6

The returns show 2,884 acres, or 18 per cent. of the cultivated area, as under all tenants paying nothing or a cash rent; and 1,564, or 10 per cent., under tenants-at-will so paying. Of this latter 66 acres are rent free, and 368 acres pay at revenue rates only. We may exclude these latter from our calculations, for it is land lent to relations &c. for cultivation gratis, and not properly rented. Leaving out the irrigated area, we have left, with land that pays rent in addition to revenue, 1,120 acres (6½ per cent. of the cultivation) paying a rent of Rs. 6,720, or at the rate of Rs. 6 an acre.

To the east of the Samrala Bét lies that of Rupar (Amballa dis-

Rates in neighbouring Bet tracts. Rupar Bet. turns show that the proportion of irrigation is about the same in both (2 per cent.); but the returns show that the proportion of dofasts and sugarcane land is considerably greater in Samrála now than it

was in Rupar at the last Settlement (1852). The Rupar rates are: Unigated, Rs. 3-14-0 against our proposed rate of Rs. 4-0-0; and nairrigated, Rs. 2-0-6 against Rs. 2-2-9. As far as I have seen the Rupar Bét I think that it is inferior to that of Samrala in natural advantages, being a good deal cut up by such streams as the Budki, which cause deterioration to a large area of land. The cultivation in cause deterioration to a targe area of land. The contivation in Samrala is undoubtedly superior; and the area under sugarcane more. than double that recorded for Rupar; but besides this the Rupar rate is that of the last Settlement, and it is almost the same as the Regular Settlement rate for Samréla. The proportion of bad málguzárs is much

Opposite Rupar is the Garshankar Bét (Hoshiarpur District), with the same in both tracts. dofasti 18 per cent., sugar 43 per cent., and ir-Garshankar Bét. rigation 2 per cent., at the time of the Regular Settlement, and paying Rs. 2-7-1 an acre. Mr. Melvill assessed both and states in personnt 125 of his Amballa Report that the sed both, and states in paragraph 125 of his Amballa Report that the latter tract is much superior. Directly facing Samrala is the Nawashahr or Rahon (Jalandhar) Bét; and there is probably little difference between the two. In fact 15 of the villages now in Samrala were at Settlement in the Rahon Bet, and have come over by change in the course of the River. The Richon rate is Rs. 2-12-0 an acre.

If it were fair to make the comparison with native territory might point to the Patiela villages belonging mative territory, to the Khumanon jiggs, which are in the very middle of the Saurala Bet tract; and pay at least double what our villages do. The jagirdars appear to fix their own demand; and the villages do. vinages do. The Jaymano appear to he then own demand; and the rates are consequently higher than elsewhere in Patiala. In Mauza rates are consequency manner than collections are at the rate of about Hedon, one of these villages, the collections are at the rate of about Rs. 5 an acre, while in the adjoining village of Bairsal in our territory the rate is Rs. 2-2-0. In the latter village the people are all involved the rate is its. 2-2-0. In the interest in debt, and the revenue is with difficulty realized; while in the former the demand is paid and the people are at all events free from debt,

The following statement shows the chief features and the rates and in fact cannot get eredit. in the tracts with which comparison may be made:

KII WILL				BATT	8.	
	ivri-	dofasli i	Irrigated.		442	
	- 1	(25) 30	Re. As. P. 3 14 0	Re. As. P.	-	32
Garshankar	1 _	18 28	1	2 6 9	1	
	. 2	3 \ \ 14 \ 42			2 12	3
	Rupar Garshanker	Per cent. irrigated. Bupar 24 Garshankar	Per cent. dofaeli and sugar. Rupar 2 25 30 Garshanker 2 25 426 Gamrála 2 145 42	Tehsii. rricadofasii Irrigated. la dofasii Irrigated. la dofasii Irrigated. la dofasii Irrigated. la dofasii la dofasii Irrigated. la dofasii la dofasii Irrigated. la dofasii la dofasii la dofasii Irrigated. la dofasii la dof	Per cent. dofasli gated. Per cent. dofasli gated. Irrigated. Unirrigated. Rs. As. P. Rs.	Per cent. Per cent. dofaeli

Rates adopted and assessments nanounced.

Rates adopted and assessments nanounced.

Adopted for this Circle. Owing to the high rate at which rents in kind are paid it was recognized that the assessment must, in the very depressed condition of the tract, be much under the half-asset estimate. The following statement shows the revenue rates finally adopted and their result:—

	·	-=			==: .==================================		, - <u></u> ,
	Batt.	İ	Area in acres,	Revenuo rato.	Resulting Jama,	Half-assot estimate,	Former
Irrigated	***	l	293	Br. As. P.	Ra. 1,172	1,493	Rs.
Defini		•••	10,897	2 10 0	28,604	35,305	' <i></i>
Ekfaeli	n.		4,995	1 8 0	7,492	8,908	
	Total		16,186	9 4 10	97,268	45,704	89,503

The calculated increase by these rates was 4,765 or 13 per cent.; but, owing to the necessity of assessing lightly new alluvial lands, it was expected that the village assessments would fall short of the sum. In this and the other Bet Circles the areas given in the Assessment Reports were those of 1879; and the rates were actually applied to the area as we found it in the years of announcement (1880-82). The assessments, former and new, and the result of the rates actually reported, were as follows, the differences being due to changes in the land subject to alluvion and diluvion:—

(1). Deman I for 1850-81... = 32,234 (2). Assessment by the sanctioned rates = 38,468

(3). Actually announced ... = 38,468

an increase of Rs. 3,829 or 12 per cent. This increase is a small one; and it was on the whole distributed evenly over the villages. I do not think that this amount of enhancement is likely to make much difference in the condition of the tract; and, if regard be had to the productive power of the land, the new assessment is moderate, for the tract is a very fertile one. The greater part of the proprietors, and certainly all the Mahomedan Rajputs, are hopelessly involved in debt, and the only measure that could do them any good would be the suspension of the sotion of the erdinary Civil Courts.

LOWER DHAIA CIRCLE.

General description.

226. This consists of a strip of land just under the High bank, and the Dhaia proper, or land over it. The former belongs to villages which have also land in the Dhaia, and I have thrown the whole area of them into this Circle for convenience. The total area is 31,482 acres (con-

tained in 30 villages), of which 25,035 or 79 per cent. are cultivated, 2,461 culturable or lately abandoned, 2,514 unculturable waste, and 1,472 Government property (land under the Canal and roads).

The Bet portion of the Circle is for the most part very fertile, the land sloping down to the Budha nala, where this stream is at a little distance from the High bank. The soil is generally lighter than that The Bet portion. of the rest of the Bet, there being a mixture of sand from the Dhaia with it, and produces splendid crops of sugarcane and cotton, &c ; and there is also some good irrigated cultivation. But to the east about Poawat and Bahlolpur the Budha is close under the High bank, and there is a great deal of swamp, the land being all to the north of the

The Dhaia proper is a tract with an uneven surface and a light sandy soil, which shifts about under a strong wind, and is blown into hillocks. Ordinarily it has the appearance of a desert; but the soil The Dháia, is very retentive of moisture, and under favourable circumstances good ereps are grown. The Kharif crop is mostly moth, for the growth of which the soil is adapted. With a light rainfall, when better land will bear nothing, fair Rabi crops of wheat, or wheat and gram, are grown; but they are liable to be buried under the shifting sand. A good raise

fall, agoh as saits soils with more clay in them, is bad for them Round the villages are the wells, and the land attached to them is generally emperior and highly entireted; but there is a continual struggle to keep out "ber" generally) are planted, or hedges put up as barriers. The worst villages are those adjoining the High bank. The surface in them is very hillocky, and the soil therefore more liable to shift. villages adjoining the Upper Dhaia Circle have generally a more level surface; and, though the soil is poor, the crop is not so subject to injury from drift. But altogether the tract is an inferior one as regards natural advantages. The proportion of soils is for Dhain portion :-

63 per cent. Bhúr or saud 30 29 Rouslí or sandy loam 7 Irrigated

The Rousli is all very light.

227. The percentages of area under the principal crops are :-Crops and husbandry. For the Bet.

Wheat	•••	31	urif, 63.	Sugar Maize Rice Cotton	•••	2
Others		6	튑	Charri Others	•	

The proportion of land under the higher crops is greater here than in the Bet Circle. For the Uháia portion the figures are:

	, 	 			
Rabí 51,	Wheat Wheat and gram Barley and grain Oshera	 28 17 4 2	Cotton Maize Moth Contri, &o.	*** *** ***	 2 2 37 6 2

Very little sugarenne is grown in the Dhain and the large proportion of area under moth, which is only sown in the sandiest lands, and is a very inferior crop, is a proof of a poor soil. The yield of superior crops in the irrigated land is not good; and the unirrigated crops are all poor and

stunted in comparison with those of the Bet and Upper Dhaia.

The system of cultivation in the low lands is the same as that described for the Bet Assessment Circle. There are some wells under Machiwarah, &c.; and superior garden cultivation at them, crops of vegetables, tobacco, &c., being raised. The land sloping down to the Budha nala is heavily manured and richly cultivated. In the Dhaia portion of the Circle the wells are grouped round the village site; and the cultivation at them is fair, though in places the best land sometimes gots covered with saud. Sugarcane is grown, and double crops of makes or cotton followed by wheat, barley or folder. Appendix I gives an area of 10 acres to each well, or 61 to each broket. There are no outlying wells; and the distinction between Mill and Khalis is not worth maintaining. Of the irrigated area 75 per cent is twice cropped or under sugarcane. The unirrigated cultivation is almost entirely on the system called dofasti dosala.

228. Hindu Jata hold 43 per cent. of the tren; Mahomedan Jata,

Tribes and tenares.

27 per cent.; and Mahomedan Rájputa, 7 per
cent. The Mahomedans are found in the
villages on the High bank just over the Bét; and the character given to
those in the Bét applies to them. The Hindu Jata are not so well-to-do
as men of their class generally. They are for the most part industrious;
but the soil is very interior and yields only a poor return for their labour,
and they find it difficult to subsist. Of the cultivated area 938 acres (or

Tenants

3½ per cent.) are held by tenants with rights of
occupancy, and 6,226 (or 24½ per cent.) by

tenants-at-will; in all 7,164 acres or 28 per cent.

229. About six per cent of the whole area has been sold since Settlement, and of this two-thirds to strangers of the money-lending class; while eight and a half per cent, is mortgaged with possession, three-fifths to strangers. The prices per acre are Rs. 18 for sale, and Rs. 15 secured by mortgage; and the low averages show that the land is not valued as an investment. There is not much debt outside of these figures, for money cannot be raised without the security of the land. Complaints are made very generally; and a good many of the villages are badly off. Discontent is general, and there can be no doubt that the tract is by no means in a flourishing condition—a result that may be

attributed chiefly to the poverty of the soil. The assessment of the Settlement Officer in 1852 was not very well received; and was revised in 14 out of 30 villages by the Commissioner, who gave a reduction

on the whole jama of 44 per cent.

230. There is a decrease of population shown between 1854 and 1868; and there has probably been no increase Changes in the resources. since the Regular Settlement. In fact the tract is not capable of supporting more people than it now has, for there is no room for expansion of the resources. I have come across many instances of proprietors living on the money that they could raise on their land till this was exhausted, and then going away to seek a livelihood elsewhere. There is a decrease shown in the cultivated area, due to the land that has been taken up for the Sirhind Canal; but for this the former and present areas would be the same. The Canal runs along the whole length of the Circle and has out up the best land of a few villages, passing close to the site. The loss of such a large area (1,472) must have deprived a good many people of their means of subsistence and diminished the resources of the tract. On the other hand, the Canal may give occasional employment to some, and has already done so. There is a decrease of 200 acres or 6 per cent, in the cultivation of the Bet portion, due to land being permanently awamped; while, if we exclude the area taken up for the Canal, there is a slight increase of cultivation in the Dhain land. Irrigation has increased 10 per cent., the increase being chiefly in the Bet. The other statistics point to the tract being stationary in every way; and, if we are to take an enhancement of the assessment, it must be based entirely on the rise in prices. But the amount of surplus produce available for sale is very small, and the Dhaia proper can do little more than support its population.

231. The jama by the Regular Settlement revenue rates was Rs.

29,437; but the actual demand was fixed at Rs. 27,587. This was reduced to Rs. 26,324 by the Commissioner in 1855; and has tallen on account of remission for the Canal land taken up to Rs. 25,440. In 9 villages the jama was distributed by rates on soils. I give below for the Dhaia proper the rates adopted by the Settlement Officer (revenue rate jama) and those used for the distribution.

		****	. 22 7		-				• • •	1	
						Ave	RAGE.				
				Revenue	: m	Lœ.	Distrii ("Tafrik"	outic ') <i>rr</i>	ni Lien.		
N-41				5	A8.	3	3	As. 5	0) With	rateson
Kháles Roustí Bhúr	***			ō	1 15 12	0 6 6			6 3	jadid dina and able.)	and qa- (fallow cultur-

Most tenants pay in kind, because the harvest is so uncertain.

The area under tenants-at-will paying in cash is 1,522, or 6 per cent, of the cultivation; but of this 663, or nearly half, pays revenue only. The area actually under competition cash rents is 700 acres or less than 3 per cent. Most of this is in the Bét portion of the Circle, and the area of the Pháia so held is less than 2 per cent, of cultivation. The rent statistics for the Dháia land such as they are, I give:—

Paying at a rate on the higa.

=·		₁									
1	rricate	त		Rousli.			Bhúr,	ļ	Mixed.		
Arte.	Amount.	Rate.	Area.	Amount.	Bate.	Атт.	Amount	Rate.	Area.	Amount.	Bate.
7	49	7-0-0	19	38	2-0-6	46	66	1-7-0	35	87	2-7-9
				Pa	ying h	imp m	ms.				
- - .	ırrigate	ы.	Rousli			Bhúr.			Mixed.		
	! •			;	. 5 3	1, 1	ų!]	1	 i	į

	And the same	4.00	- 1			
Men	Amenat Eate.	Area	Rate.	Area.	Amount.	Bate.
57	93 2-8-9	ਕੌ63 ੂੰ 115 ਤ ਜਾਮੀ	1-13-6	183	509	2-12-0
	1 A	4 4 4	4 1 4 10 4 17 5	المستحد المستحد أكدادها المستحد المستحدا	إحصيت أحيدت والمناف والمداد المستنية المحسور	

Revenue rates sanctioned and results.

232. The revenue rates finally sanctioned and their results are shown in this statement:—

	Soil.	Area in acres	R	ate.		Resulting jams.	Half-asset estimate,	Former as- sessment.
	Irrigated	 173		Д9 В	P	773	1,111	
Bet	Dofasti	 2.275	3	0	0	6,825	9,193	
	Ekfasli	 948	1	12	0	1,659	2,374	
	Cháhi	 1.311	3	-0	0	3,933	4,771	
Dháin.	Rousli	 641	i	0	υ	6,411	5,074	
3	Bhur	 13,917	11	10	0	8,695	8.389	1
	Total	 25,035	1	2	1	23,299	30,912	25,899

The above gives an increase of Rs. 2,407 or 8 per cent. The assessments actually announced amounted to Rs. 28,154, and were well received. The tract is a very poor one; but the assessment was and still is very light; and there is some very good land in the villages adjoining the Bét, and again in those next to the Upper Dháia Circle.

THE UPPER DHAIA CIRCLE.

233. This Circle contains 175 villages with a total area of 126,324

General description.

acres, of which 107,750, or 84 per cent., are cultivated; 8,627, culturable or recently out of cultivation; and 9,947, Government property or unculturable waste. It stretches south from the Lower Dháia in a plain of uniform surface except where two belts of sand, each of about one mile in width, run across it from north-east to south-west.

The soil varies from a stiff clay to a light sand, the latter being found in the neighbourhood of these belts, and the former in depressions. The prevailing soil is a good loam, generally of dark colour, friable and most fertile. The proportion of soils according to our present classification is—

Irrigated 42 per cent.
Unirrigated Dákhar (clay) ... 3 ,,
Ditto Rouslí (loam) ... 43 ,,
Ditto Bhár (cand) ... 12 ,,

Total ... 100 per cent.

Produce and husbandry. 234. The percentages of area under the principal crops are—

-	Wheat		26	FUR	Sugar		•••	8
cent.	1			cent.	Cotton			7
5	Wheat or b	arley and g	nam 13	her ce	Maize		!	9
\$	Bartey or gr	am alona	1 7	1 2	Moth	•••		9
Ratir.	Training of Ex			1 10	Charm	•••	., :	11
F4	Others	***	2	F. ha	Moth and	Chairi	··· }	8
	<u> </u>		<u> </u>	1	Others			21

The husbandry of the tract need not be described in detail after the general account given in paragraphs 104 and 105 of this Report.

235. Of the revenue-paying area 60 per cent, belongs to Hindu Jats; 8½, to Mahomedan Rājputs; 2½, to Mahomedan Gújars; and 2½, to Mahomedan Jats. The Hindu Jats are a most industrious and thrifty class; and it is fortunate that the proportion of them is so large. The Mahomedan Rájputs are notorious for their improvidence; and are the worst possible revenue payers. At the Regular Settlement this was fully

recognized, and allowance was made in the passessments of their villages; but I do not think that such consideration has much effect on their condition. They are, as a class, very much involved in debt; and their villages contribute most of the area in the return of sale and mortgage. I have seen in many places the land of a Rajput village mortgaged to the neighbouring Hindu Juta, although the latter were paying a much higher assessment on their own than the Rájputs. All Mahomedans are put at a disadvantage by the custom which prevents the femule portion of their households from assisting them in out-of-door work, whereas every member of a Hindu Jat's family gives him some help. It is to this that all Mahomedaus attribute their bad success as cultivators, but it is only one reeson. A Rajput will, if possible, rent his land to some one else, and thus save himself all trouble. If he is compelled to cultivate it, he does so in a most perfunctory manner, ploughing ouce for exert; three or four times that the Jat does.

The returns show one per cent. of the total area sold since Settlement, but nearly three-fourths of this has Condition of tract, debt gone to coparceners. The average price realized

&c.; small proportion of area transferred; and value of land.

is Rs. 35 an acre. The land mortgaged with possession of the mortgagee amounts to four and a half per cent. of the whole, and or this nearly one-half is in the hands of members of the village community. The whole area transferred to the money-lending class proper by sale and mortgage is thus about two per cent. The amount secured per acre on usufructuary mortgage is Rs. 27. The inference to be drawn from these figures is that a very small portion of the land has changed hands. and that very little of it has gone to the money-lending class. The ordinary Jut is most tenacious of his land, and will subjuit to any thing rather than that it should go out of his possession. If he cannot raise money without a mortgage, he will retain a part of his holding, and take the first opportunity of redeeming. The price paid for the land shows how it is valued.

My own experience of the tract agrees entirely with the result of these statistics. The people are uncommonly well-to-do, except in some of the Rajput villages where the thriftless habits of the landowners are bringing them to ruin. But the money-leader has scarcely any hold at all on the Jats, nor is he ever likely to have more. There is a good deal of hard cash amongst them; and, if one of the number is in difficulties, he can always find some of his fellows to make an advance on the usufruct of a part of his land. There is of course a certain amount of floating debt; but this is no more than a couple of good harvests will clear off. It a money-lender has got a hold on the borrower he will insist on having the land and receiving a share of the produce; and it is a sure eigh of the temporary nature of the debt when the land remains with the proprietor. There are not many external signs of prosperity such as one is led to aspect

from the experience of other districts. The people are very fond of their money, and waste none of it on show. The houses are nest, but have seldom any pretensions. A well-to-do Jat has no horse and not more cattle than he absolutely requires. He dresses very plainly, and spends little on the clothes and food of his family. His great nim is to get some more land into his hands; and he will keep his savings till a chance occurs of investing them in a mortgage. The best evidence of the prosperity of the agricultural population is that they can always dispose of their surplus produce to whom they like, and when they like. In most houses will be found stocks of grain or cotton more than sufficient for the use of the household, and kept in the hopes of a rise of prices. The gur is bought up from them as fast as it is made. They have not even the trouble of taking their produce to market, for there is a keen competition between the traders, who go amongst the villages and buy on the spot. The Jats are careful to get a good price; and the margin of profit left to the trader is never excessive.

237. Notwithstanding the large area taken up for roads, canals, Increase in resources.

Sc. there has been an increase of 7 per cent. in cultivation, 4 per cent. in irrigated, and 10 per cent. in unirrigated. The masonry wells have increased by 6 per cent.; ploughs are shown as having increased by 13 per cent.; and plough-cattle (bullocks) by 16 per cent. These latter figures are probably near the truth. The former details of "other cattle" are unreliable; and there has not been any increase in them, I should think, for there is no attempt to rear cattle for sale. No waste land is left, and fodder is valuable, so that the people much, prefer to buy bullocks and cows ready for use and to sell the young stock.

238. I give below a statement showing the revenue soil rates adopted at the Regular Settlement, and those used in the villages in which the assessment was distributed on soils (26 out of 175). The revenue rate jama was 10 per cent, also ve that actually imposed.

	Soil.	Reverse rates Distribution rates.
Irrigated	Niái cháhi Khális cháhi	Rs. As. P. Rs. As. P 8 12 3 4 14 0 3 5 0
Umrrigated	Rousif and Dakbar	1 6 8 1 4 2 0 14 6 0 13 6

The following statement, condensed from Appendix IIB, shows the cash rents of the Circle. I have been able to obtain reliable data as to each rents from the annual papers of two or three villages only:—

[217]

I .- Paying zabti or erop rates.

	SUGAR.								COTTON.					
	Niari		Kı	ALIA CI	1 A H 1.		NIAT.		Кил	LIE CE	1461.			
136	Anount.	13.0.0 Rute	Area.	Amount		28 7 1 P.W.	A Amount.	6-9-2. Bate.	10 Area.	Amount.	6.9.2			

		MAIS	ZE.	(CHARRI.		
N	iái.		Khalie Chairi	Rosalf bardel.			
27	275	10-2-6	26 340 6-7-0	456	2,084	4-7:6	

II .- Paying at an annual rate on the biga.

NIAL.	KHALIS CE	ьні.	Rovers.	VE)	Becs	<u></u> .	T= : =	Mizen.	
ount.	pant.		carie a	a profession	orent.	- i	ا د	ount.	
89 685 6-9-2		-12-A 894	3,716	4.5.9 21	68	3.4.0	862	₽ 1,967	5.9.0
	<u> </u>		0.710	21	, °°	3-4-0	002	1,401	6-9-0

III .- Paying lump sums for the year.

NIAI.	KHALIS C	напт.	Rocata.		Висв.		Mired.			
Area. Area. 3.10.1.1.2.6	# Hanoner	~;	E Arm.		73 Yask	174 Amount	9-50 6.	2,894	13,422	# 10.9

The annual papers of three villages give-

	JGAR (ILRIGATE	D.)	Lone some (uniuricated.)				
Area.	Amount.	Itate.	Area.	Amount	Rate.		
86	377	11-1-9	3-866	13,697	8-9-5		

A detailed analysis of the rents show that II does not give the proper relations between irrigated and unirrigated land. It is usual in some villages to take rent at a general rate per bigah, irrespective of irrigated and unirrigated; and, when we distribute this over the area in our returns, we get a result that is misleading. The general rate is fixed for the convenience of the proprietor, and does not mean, as our returns would show, that all the land has the same renting value. Thus in manza Raháwan, where the proprietors are Rájputs who cannot cultivate their own land, a general rate of Re. 1 a kacha bigah (Rs. 5 an acre) is charged for all land; and, when we have distributed this over the whole rented area, we get the result—

I	RRIGATED.			Uninrigated.			
Area.	Amount	Raig	Area.	Amount.	Rate.		
194	890	4-14-0	-17 181	1,750	4.9.0		

Giving nearly the same rate for irrigated as for unirrigated land, neither being the true rate. For this reason the irrigated rent rate in H is too low; and consequently the unirrigated too high. Again, if we take the hump sum rates of villages where land is scarce, we get a ranch higher rate than where tenants are scarce. Thus the irrigated lump sum rates for Isra, Nasráli, Aikeláha. Utálan, Bhamadi (5 villages) give—

de la compania de la compania de la compania de la compania de la compania de la compania de la compania de la

	Ni at.	1	Knális.					
Area.	Amount.	Rate.	Area.	Amount.	Rate.			
		Rs. A. P.			Rs. A. P.			
68	812	12 0 0	159	1,431	800			

On the other hard Kheri, belonging to the jagirders, who find tenants with difficulty, give rates—niai, Rs. 7; khális, Rs. 4. The crop rent rates are a much better index of the relative values of land. The

area under cash rents is not sufficiently large to eliminate such discrepancies as these; and we must bear in mind that 80 per cent. of the whole land is in the hands of cultivating proprietors, and 10 per cent. more held by tenants paying in kind.

239. In training my rates I kept all these considerations in view—the former rates (revenue and distriRates proposed. bution), cash and kind rents, and the relative renting value of the different soils. My rates as compared with those of the former Settlement are—

				Reo	CLIR SETTLEM	ēst.
	Soil			Revenue	Distribution rate.	Rate proposed.
nei	f#	**	A ST	R. A. P.	R. A. P.	Re. A. P.
Khálie	444	141	Spirito.	10	2 5 0	3 8 0
General re	ate on well land		يوندوسوره - الرا ا	4 6 6		3 15 0
Lousli and	l Dákhar	•••		1 6 8	1 4 2	1 6 0
Bhúi	***			0 14 6	0 15 8	0 14 0

Results.

There are former rates on fallow and eniturable waste; but I proposed none. The results of the application of these rates were:—

s	01L	!	Area.	Rate.	Jama.	TOTAL.
				В•. А. Р.	Rs.	Re.
Niái	•••		វត្តបន្ទា	4 12 0	76,236	
Simple well			28,791	380	1,00,765	1
Other irriga	tion	***	29	3 6 0	81	1
Rough	•••		49,536	160	68,112	1
Bhúr			13,346	0.14 0	11,678	2,56.875

The assessment of the last year of the Regular Settlement, including man jama, was Rs. 2,07,296; and the proposed assessment would have given an increase of Rs. 49,579 or 24 per cent. In reviewing the Report the Financial Commissioner recorded the following orders:—

Financial Commissioner thinks that the reasons given for proposing these rates are sufficient and he sanctions their adoption. They are, in the Financial Commissioner's opinion, better proportioned than those fixed at the Regular Settlement, and are fully justified by the statistics of rent and produce. They are however still a little higher on well land than Mr. Lyall likes; and any approach to putting too much on well irrigation is of course to be most carefully avoided. He therefore agrees with you that a larger increase than 20 per cent, should not be taken. The Settlement Officer should in ussessing practically reduce the well rates so as to make the new rates give an increase of 20 per cent. only, and he should also be very careful how he assesses villages in which the proprietors' holdings are very small." (No. 7106, dated 10th October 1881, from the Settlement Secretary to Financial Commissioner, Panjab, to the address of the Settlement Commissioner). His Honor the Lieutenant-Governor in formally sanctioning the instructions of the Financial Commissioner said: "In agreeing to the announcement of the assessments the Lieutemant-Governor requested the Financial Commissioner to impress upon the Settlement Officer tile necessity for treating with care and leniency those vida res in which, from the small size of the holdings, an increase was likely to be feit, and His Honor further considered that 20 per cent, should be the maximum increase to be taken on the Upper Dhaia circle. It is observed that in Mr. Lyall's belief, the holdings are not, as a rule, very small in Ludhiang. But the average size of proprietors' holdings should, as is now proposed, always be noticed by Settlement Officers in Assessment Reports. In the present instance, observation should be particularly directed to the effect of the new rates upon the petty properties; and there should be no hesitation in granting immediate relief wherever it appears to be required. The subject should be fully discussed in the final report in the light of the experience which will accumulate in the interval." (No. 103, dated 3rd April 1882, from the Secretary to Government, Panjab, to the address of the Financial Commissioner). I have quoted these orders in full because the Assessment Report of this Talisil was the first submitted, and the callets on it were my guides in the treatment of the test of the district. The actual results reported in form E (detailed village assessments) for anis Chiele were as follows:-

Jama of the last year (with maß, &c.)... 2,67,643

Jama announced ... 2,67,643

2,46,293

Jucrease ... 38,650 or 19 per cent.

This increase was somewhat under that directed; but I found that there were several Mahomedan villages in which we had to go very far below rates; and I preferred reporting the deficiency to attempting to make up the sanctioned total by taxing the industry of the good cultivators. With the exception of these villages the enhancement was evenly distributed over the tract, and the new assessments were well received. The holdings are smallest in the older villages like Isra and Utalan, and the instructions of Government were acted on in the treatment of such as were made up of attenuated properties; but the difference between

one village and another in this respect is seldom very great in the Samrala Tahsil; most of them being on the same level. Where the holdings were below the average size, this was usually found to go along with a larger proportion of irrigation, an intensified condition of agriculture, and a very high rate of assessment; and the new revenue rates soldom indicated much of an increase in such cases. For further information on this point I would refer to the village note-books.

TAHSIL LUDHIANA. THE BET CIRCLES. BET I—KACHA.

240. In paragraph 202 I have given reasons for subdividing the Bet of this Tabsil into three Circles. The first Circle for consideration is the mand or strip of General description. land along the margin of the River; and I have included in this only the villages of which the greater part of the area is liable to annual inundation. The Circle contains 15 villages with an area of 8.757 acres, of which only 2,677, or 30 per cent., are cultivated; 3,487, or 39 per der, 26 per cent., is unculturable. The small properties of cultivated area to culturable and barren is not to be wondered at in a tract like this. The unculturable is said along or in the bed of the River, and the culturable is the ordinary new land found on its banks, covered with a growth of "pilchi" or of reeds. Most of this will eventually be cultivated, unless destroyed by the River. Of the area lately abandoned 272 acres are in one village, having been cultivated one year to secure possession (as the land was in dispute), and never again. The land of this Circle is nearly all liable to annual inundation: and people live in adjoining villages of the packa Bet, and sometimes in a corner of their own as the land is under water during most of the hot weather. The sitt left by the overflow of the River is generally very fertilizing, and the land is really renewed annually. The soil is a clay-loam on a substratum of sand. When the deposit has attained a depth of nine inches to a foot, the plough can be worked in it without bringing up the sand, and cultivation is possible. But good crops cannot be grown unless the sand is from one to three feet distant from the surface, the further the better.

rom the shiftee, the rai	241.	The percentages	of area	under	the
Crops and husbandry.	various ere	ps are:			

	741101	1	. 			
Wheat		48	Maize			20
Barley		7	Rice	•••		3
Barley with masar		7	Sugar	•••	•••	. 8.
Others		7	Charri			8
Total Rabi		69,	Others		•••	2
Total 2-an-				Total Kharif	•••	. 31

The irrigated area is insignificant. In dofasti land the crops are maize, and sometimes rice, followed by wheat or barley, or a single crop of sugar or cotton is grown. Manure is not much used except for the cane, as good crops of maize and wheat can be raised in succession without it. Ekfasti land, when newly broken up, is cropped for two or three years with a mixture of barley and masar; and then it becomes capable of growing wheat. There is little or no Kharif crop in the ekfasti land, for it lies low and cannot be sown in time. The dofasti land is so situated that the water drains off it in time to enable the cultivator to sow maize, or the crop is rice. The wheat crop is magnificent, the yield being equal to that of irrigated land in the Dháia; and the maize, too, is good. Rice is grown in the wet lands near the river. It is in the ground only 40 to 50 days and may be followed by other crops.

Tribes of proprietors. 242. The land is held by the various tribes, thus:-

Mahamedan			•••	-44	57 per cent.
Ditto	Gújars	144	() .···	•••	10 ,,
Ditto Minuin Lobi	Juts			• • •	14 ,
Offices		iojariis		***	16 ,,
Compte	• • • •	1.3		***	עני

Total ... 100 per cent.

The Mahomedans are not well suited to the ups and downs of au alluvial circle, but they are fairly well-to-do. The Binjaras engage a good deal in trade, and do not depend entirely on cultivation.

condition of the tract.

Since the Regular Settlement, and eight per cent is now held in mortgaged. The price in the case of sale is Rs. 40 an acre, and the mortgaged money per acre Rs. 17. The whole area mortgaged has gone to money-lenders; but it is made up almost entirely by one Rájput village (Satiánah), of which the whole land (565 acres) has been mortgaged. With the exception of this one village the Circle is in good condition. The produce is excellent and the people keep out of debt, and are generally well-to-do. But they are of course liable to lose their land any year from the action of the River. The Regular Settlement gave a large reduction on the jama of the Summary Assessment, and was 20 per cent, under rates. The present assessment is very light.

244. A comparison of the former and present resources is not of much use in a Circle like this, where the assessment varies with the cultivation. The incidence of the present population is 522 to

the square mile of cultivation.

Regular Settlement rates.

Regular Settlement rates.

Regular Settlement rates.

Rs. As. P

Teriorated.

2 10 0

Irrigated		4.	***	 2	10	0
Dofasli		***		 2	5	8
Ekfasli	***	.45		 1	4	3
Jadíd	***	467	•••	 0	4.	7
Qudim			•••	 0	5	5

The jama actually sanctioned was 20 per cent, below that given by rate. Soil rates were not used in any village for distributing the assessment.

No cash rents.

There are no onsh rent statistics except of a small area of sugarcane, which pays

Rs. 9 an acre.

The following statement shows the rates sanctioned and their result as compared with the produce estimate:—

	Soil.		-	Area		Rale		Resulting	Half-asset entimate.
Irrigated	•••	,		21	3	A 12	I'.	90	111
Dofaslı	•••	•••	•••	1,283	2	12	0	8,558	4,798
Ekfasli	•••			1,370	1	12	0	2,897	1,616
	Total	644			五級	2		8,04%	7,797

As in Samrála it was expected that the village assessments would fall short of the above total on account of new land favourably necessed; and in the case of the land included in the kacha chak (see the account of the system in Chapter IX) defasti rates of Rs. 2-10-0 and Rs. 1-10-0 were to be applied instead of the full rates. The assessments announced and reported amounted to Rs. 4,900, as against a total by rates of 5,039, there having been considerable changes in the area of the report as in the case of Samrála; and the cubancement on the demand of the last year, Rs. 4,049, was 21 per cent.

BET I-PACKA.

246. Bet I, Packa, comprises the rest of the villages of the Bet portion of Bhartgarh and Salmewal parganas. It contains 57 villages with a total area of \$2,048 acres, of which \$21,237, or 66 per cent., are cultivated; \$6,078, or 25 per cent., culturable or lately abundanced; and \$2,733, or 9 per cent., barren waste. Part of the land of one or two villages is in the mand and subject to inundation, but with this exception the tract lies high, beyond the direct influence of the River. Towards the High bank, too, very few villages adjoin the Budha nale, which runs for the most part through the Bet portion of the Lower Dhain Circle. There are a good many nales or streams; running across the tract, which fill in the rains, but seldom overflow their banks. The soil, like that of Bet lands generally, is a stiff dark clay-loam on a substratum of sand, very fertile when properly cultivated. The water level is near the surface, and there is always abundance

of moisture. In places there is tendency to kal'ar; but this is not common, and hand so affected is mostly mentivated. Sand ridges occur, but the sand does not shift.

The stratum of clay is shallow here and there, and the sand appears on the surface; but, as a rule, the clay reaches to five or six feet below the surface. Irrigation is everywhere easy, as water is found at a depth of eight to twelve feet, and it is more common than in Samrála. The proportion of irrigated land is 5 per cent, of the cultivated area of the whole Circle; but it lies mostly in the villages to the west. In the eastern part, as in the Samrála Bét, irrigation is not required, and superior or dofasti cultivation is carried on in the unirrigated land.

Crops and husbandry. 247. The percentages of area under the various crops are:--

المنافقة الم	Radi, i	58.		3-0-	Килар.	Кимир. 42.			
Crop.	Irrigated.	Usara-	Total	(,,,,	· Irrigated	Voireio gated.	Total.		
Wheat	21	461	19	Muizo	3	14	17		
Barby		41	5	Bugar		3	*		
Vegetables .		21	21	Chiton		3	3		
00		η		· Clearri		184	184		
Others .			ग्रास्त्रा	Others	1	64	61		
Total .		58	54	Total	4	38	43		

In the Rabi wheat is grown as a single crop in ekfasli, or following marze in irrigated and defasti land. Sometimes barley is sown instead of wheat. The "vegetables" are principally melons. In the Kharif maize is grown in the defasti, and charri in the ekfasti lands. The proportion of sugarcane and cotton is small, the former being grown in a few villages adjoining Samrala, and the cultivation being apparently on the increase. The dofasti and irrigated lands usually he close round the village site, are well tilled and heavily manured. The ekfaeli land either bears a Rabi crop year after year (flooded lands) : or is cultivated on the dofasti dosdla system, that is a wheat crop is taken and then one of maize or charri, after which the land has a year of fallow. There is a considerable area of ekfasli hand shown in our crop returns as growing maize or cotton, and for these crops manure is used; but the land is really expanti, for there is none of it that gives more than two crops in two years, and in fact the following crop of wheat cannot be taken. The cultivation

of the ekfasli land is difficult, and it is not altogether the fault of the cultivators that the tilth is not so good as in the Dhaia. The soil is naturally stiff, and a few weeks' rest produces a rank growth of thistles, "piazi" &c., which it is not easy to keep down. Ploughing is very hard work, and has to be repeated much oftener than in the lighter Dhaia lands. Still the cultivation is slovenly, and would be improved by some exertion on the part of the cultivators. What they principally fail in is weeding. One sees whole fields of wheat choked with "piazi" weed, which a Jat and his family would clear in a few days. The ordinary cultivator of the Bet thinks he has done his duty when he has sown the land, and seldom touches it again.

Agricultural tribes. 248. Of the whole area 98 per cent. is

		necorby man	iomeanns,	TUMB:		
Rájputs	***	***	***	•••	•••	22
Cujars	•••	4++	411	***	•••	34
Jate		114	***		***	19
Araiens	***	144	(h	***	•••	7
Others		A	History .	•••	***	11
		ALERWINE TH	State of the last		-	

Total ... 93

The "others" are made up of Awans and sainds principally. The Hindan, who hold 7 per cent, are mostly Lobauns. The Rajputs are bell husbandmen, and do not willingly cultivate their own land. The John and Office are more industrious and well-to-do.

249. The condition of the truet is better than that of the Samrala Bet - a result that I attribute principally to the Condition of the tract. small area under sugarenne cultivation; for, where cane is grown, the cultivator is driven to the money-lender. There is no such engerness here on the part of the money-lenders to make advances to the agriculturists; and the latter are more thrown on their own resources, and, as a rule, insure debt, only when compelled to do so for a marriage, on account of a bad barvest, or for some such cause. They ordinarily live on the grain that they grow themselver. Some of the villages, such as Kariána. Buliewal, &c., are very prosperous; and few are really much involved, though proprietors in most will be found in debt. It cannot be said that there is a great deal of wealth in the The wheat and cotton are mostly sold; and good prices are realized for vegetables, which are bought by traders from the City, and for straw sometimes. The proportion of the agricultural population who are well-to-do, and can dispose of their own surplus produce when they like, is considerable; but not nearly so large as in the Diaia. Such

Of the total area one and a half per cent, has been sold since the Sales and mortgages.

Regular Settlement, and six and a half per cent, is now in mortgage. Of the sales 33 per cent.

by their buffaloes and cows.

money as may be saved is generally kept in hard cash or invested in land. There is no display of brass dishes &c., for the Mahomedans do not use them; and only sufficient cattle are kept for the use of the household; except by the Gujars who dispose of the milk and ghi produced

are to agriculturists, and of the mortgages 50 per cent., so that the area transferred since the Regular Settlement to the money-leading classes is less than five per cent. on total area, and six and a half per cent. on cultivation. The average price per acre is for sale Rs. 46, and for mortgage Rs. 34. There is good deal of money owed on book accounts, as might be expected from the character of the people, for Mahomedans seldom get on without the assistance of the money-leader; but the debt of this sort is not nearly so great as in the Samrála Bét, nor does it press very hard.

The difference in the rates of former assessment of the two tracts (Samrála Bét and this) is not greater Working of the Regular than might be expected from the difference in quality of the produce (Rs. 2-2-0 in

Samrála and Re. 1-13-6 here per acre of cultivation.) The Regular Settlement gave in this a large reduction (27 per cent.) on the Summary Assessment, which again was much under the average of the old collections, so that everything has been done to promote the prosperity of the Circle, so far as it could be affected by the revenue demand. The price of land is decidedly high, and speaks of a moderate assessment. The revenue is paid punctually, except in one or two Gújer villages, which would never willingly pay augsting.

250. There has been an increase in cultivation of 12 per cent., and in irrigation of 22 per cent. Kache wells, lined with wattles and worked with

dhenkli," or pole and pot, have been almost entirely replaced by messary wells, the number of the latter having increased from 46 to 107. There is an increase shown in the number of ploughs amounting to 46 per cent.; and of plough-cattle, 30 per cent. Our enumeration of cattle was not very carefully done; but the results are approximately correct. The people do not keep much stock beyond what is necessary for wells, ploughing, and dairy purposes; and an increase of cultivation is likely to act as a check on the increase of cattle where the extent of waste land for grazing is not excessive.

By the Census returns population increased 26 per cent, between

1854 and 1868; and only 2½ per cent, between 1868 and 1868. The incidence per square mile of cultivation was at the time of Regular Settlement (1854) 511; and is now 588. In Samrala Bet the figures are 520 and 590 (Census of 1868). There has thus been a very material addition to the resources of the Circle since the Regular Settlement. There is, it is true, a much larger population to feed; but the increase has been amail in the last 12 or 13 years. The present density is not excessive for a tract of such fertility.

251. The unirrigated area shown in the present returns as

defasti is very largely in excess of that
so returned at the Regular Settlement. But
our classification has been done on the principle explained in detail in paragraph 203. With a view to avoiding the

objection against the former classification, that it was too arbitrary because founded on the returns of only one year's crops, we have included in do/asli all land that appeared, after a careful observation of the crops of three years, to be ordinarily capable of bearing two crops in the year, or one of angarcane. That there has been some actual improvement in the agriculture is seen from the fact that, while the inorease in unirrigated entitivation is 11 per cent., the area of crops in the two harvests has increased by 14 per cent., and the sugarcane area has been quadrupled. Our present classification is designedly made much wider than the former one. That it is made very much on the same standard us that of Samrala is seen from an examination of the crop returns. A cultivated area of 7,016 acres gives 9,735 of crops in the two harvests, of which 362 are angarcane, and 360 under cotton. That is 100 acres cultivated give 138 acres of crops, of which 5 are sugar, 5 cotton, and 2 indigo. It was to be expected that the proportion of dofasti to total cultivation would be much less in the Ludhiana than in the Boursia Bet, shous :-

4-Table of the same		c		MAN.	Toris.
Samráia Bét	•••		66	29'	100
Ludhians Bét			LA SELL	68	100

Dofasti cultivation in unirrigated lands is really confined to the villages in the east of the Ludhiana Bét, and about half way along it where there is no irrigation. In Matewara and the western villages the better cultivation is at the wells, and the unirrigated dofasti area very small. In the Núrpúr Bét we find the proportion of dofasti unirrigated much smaller still.

Bates: Regular Settlement. 252. The revenue rates of the Regular Settlement were:—

			Solr.			, i	R	nte.	
Irrigatèd	,					-	Ke.	As, 1	P. 0
Dofaell			•••		•••		2	8	0
Ektoli		•••	•••	•••	***		1	•	*
Jadíd		_	***	•••	•••		0	41	Į
Qadim	•••	•••		•••			0	4 (6

In considering these rates regard must be had to the great improvement in the character of the irrigation; and also to the alter-

ation of proportions between dofasti and ekfasti. The actual jamas also were about 10 per cent: under rates.

For distributing the revenue soil rates were used in five villages.

Distribution rates.

These are Matewara and four others in its neighbourhood, all villages in the western part

	Son	•		Rate			Area.
Irrigated		4		Re.	As.	P.	
Dofaeli	412		***	2	11	3	. 156
Ekfaali		***	•••	2	9	6	426
	•••	#14	•••	1	6 :	2	2,585

The area under tenants-at-will paying cash rent is 1,209, or 6 per Cash Rents.

Cent.; but most of this (727 acres) is held rent free or for payment of revenue only, that is by relations of the proprietors, or by proprietors who have been wrongly shown as tenants. The area under competition rents is thus the lump sum and zabti or crop The details for the former are:

	HOLE	<u>ສາ</u> ຄົ	Area.	Rent.	Rate of Re	nt per	nore,
Dofaeli	***		94	863	Ra.	As.	
Ekfasli	***		189		•	18	6
Mixed	***	The state of		486	8	7	6
		**1	159	604	8	13	0

Cash rents are usually paid to absentee proprietors, and are not intended in many cases to do more than cover the assessment: and the rates do not represent the renting value of the land. It is a fact also that the worst land in the Bét is given to tenants paying in cash, and the whole area is small.

Beverse rates sanctioned. 253. The rates sanctioned and the resulting assessments are:—

BOIL,		Area.		Rate		Resulting James.	Half-accet Estimate.
***	•••	1,118	3	12	0	4,192	6,051
**1	•••].	7,016	2	8	0	17,540	21,488
···		13,103	1	7	0	18,836	22,704
TAL					-	40,568	
	**1	111 111 111 111 111 111 111 111 111 11	1,118 7,016 13,108	1,118 3 7,016 2 13,103 1	1,118 3 12 7,016 2 8 13,103 1 7	1,118 8 12 0 7,016 2 8 0 13,108 1 7 0	1,118 3 12 0 4,192 7,016 2 8 0 17,540 13,103 1 7 0 18,836

There are some villages in this Circle too with new alluvial land, which had to be assessed favourably; and the assessments announced gave a total of Rs. 41,519, being an enhancement of 20 per cent. on the demand of the last year (Rs. 34,207), and the jama given by rates for the year of announcement being 41,602.

BET II.

254. Assessment Circle Bet II is the western part of the Ludhiana Bet and includes nearly the whole of pargana Núrpúr. It is about twelve miles in General description. length and four in breadth, and contains 67 villages with a total area of 41,305 acres, of which 26,121 or 63 per cent. are cultivated. There has been a loss by diluvion since the Regular Settlement of 14 per cent. of the total area, and some villages have lost almost the whole of their land. I have not separated off a kacha Circle, because there is very little good mand. Here and there fresh land has been thrown up in place of the old cut away; and to the east of the Railway embankplace of the old cut away; and to the east of the Railway embankment, about Kasabad, this is of fairly good quality and yields.

But there are no whole villages which we could throw into a separate
of Bet I (Packe), and the rainfall is considerably less. The Budha
of Bet I (Packe), and the rainfall is considerably less. The Budha
nala is the boundary of the Circle to the south, and joins the River just
outside it, so that, all the land on the north bank of this stream is
included. This is in parts very inferior, being either unfit for cultivation, or yielding very poor crops and that not every year Kaller is more tion, or yielding very poor crops and that not every year. Kallar is more prevalent than in the eastern Bet, and barren patches are to be found in the best wheat fields, especially about Núrpúr. As in Bét I irrigation is easy, water being at about the same depth. The proportion of irrigated land is 9 per cent. of the cultivation.

255. The percentages of area under the

Crops and husbandry. various crops are:

Crops and husbands		rions crops are.			
Cro		司	Irrigated.	Unirrigated.	Total.
Wheat Barley Vegetables Others Total Rabi	***	Tanada S even s even s even	4	21 50	8 57
Cro	op		Irrigated.	Unirrigated.	Total.
Maize Cotton Moth Charri Others			5½ 2½	7½ 1½ 4 15 7	13 12 4 15 9§
Total Kha	rif	^***		35	that of Bet T

The irrighted cultivation is of the same sort as that of Bet I, the wells lying found the village site; and the land heavily

manured and cropped with maize and wheat in succession. The unirrigated area is seldom capable of producing two crops regularly every year, except in a few villages with mand land, where a rather poor crop of maize or "mash" is followed by one of wheat: and there is really no defasti cultivation such as in Bet I, save in a couple of villages in the eastern part of the Circle. In the mand, where two harvests are not attempted, one of wheat (or of barley mixed with masur in the new land) is grown in the Rabi. In the higher lands the cultivation is on the dofasli dosala system, the land yielding wheat and charri in succession, and then having a year's fallow. Vegetables and melons are grown in the ckfasli land of the villages under the city of Ludhiana; and have a ready sale, being bought up on the spot by vegetable sellers. The land of this Circle gets as manure most of the refuse of the City. None of this goes to the Dhaia land, but a good deal to the Bet lands of Lower Dhain, and not much to Bet I. This manure is used largely for well land, and enables the people to raise wonderful crops even on the poorest soils. The Araien villages, such as Rajowal and Baliadarke, are models of garden entiration; some of the land yielding regularly three crops every year. "Ponda" sugarcane is raised in some villages and sold at a great profit. Onion-, tobacco, &c., are commonly grown. 256. The land is thus distributed amongst

Agricultural tribes. the agricultural classes :--Maliomedan Gujura 44 per cent. 10 Rájputa " ,, Araiens lo ... " " Awans .. ,, 10 Dogara Hindus ,, Others 11

The tract is for the most part in fairly good condition. The villages on the margin of the River, which Condition of the tract, belong mostly to Gújars, have lost a great deal of land; and the proprietors have become involved on this account. But there are a number of first rate villages removed from the River with a great deal of irrigated land, belonging to all classes of proprietors. The people of these derive great benefit from the proximity of Ludhiana, where they have a ready market for their produce of all sorts, and whether they can obtain a pleutiful supply of manure. Regular Settlement gave a small reduction on the summary assessment. The revenue has been realized without any difficulty, except in one or two of the Gujar villages along the River, which have suffered most from its action. The returns show three and a half per cent, of the total area (or five and a half of the cultivated area) sold since Settlement, and four and a half (or seven) held in mortgage now. The prices per acre are Rs. 27 for sale and Rs. 29 for mortgage, the price per supec of Government demand being much the same as in Bet I. Of the land sold twothirds has gone to agriculturists, and one-third of the mortgaged land in held by them. Thus the proportion of land transferred to outsiders is four and a half of the total, or six per cent. of the cultivated area.

258. The cultivated area is 51 per cent. less than it was at Regular Settlement; but, on account of land lost by diluvion, the assessment has been reduced nearly 8 per cent. If we were to leave the villages along the River out of account, we should have a small increase of cultivation since the last Settlement. Irrigation has increased by 26 per cent.; and, as in Bét I, masonry wells have replaced the old unlined ones. Population has slightly decreased since 1868, and is now 12 per cent. in excess of that of 1854. The density is much less than in Bet I (456 as against 588). Plough-cattle are shown as having increased by 15; and the number of ploughs, by 50 per cent. Our enumeration of ploughs, which gives eight acres cultivated to one plough, is probably correct.

There is a decrease shown in "other" cattle; but this is improbable.

259. The revenue rates of the light acres
| Boil. | | | | | | Rate. | | |
|-----------|-------------|-----|------------------------------|---------|-----|-------|----------|------|
| Irrigated | ••• | 8 | | | | R*. 2 | As.
5 | P. 7 |
| Dofasli | | *** | ्रेड <u>१</u>
सद्यपेव सप् | *** | ••• | . 2 | 15 | 5 |
| Ekfasli | **1 | ,,, | ••• | *** | ••• | 1 | 4 | 6 |
| Jadíd | *** | | 14 | ••• | ••• | 0 | 4 | 10 |
| Qadím | ** · | ··· | 111 | • | ••• | 0 | 3 | 9 |

The reason for the high dofasli rate is that the produce of this class of land was much over-estimated. The resulting rate jama was very high, and only 80 per cent. of it was actually taken. Soil rates were used for distribution in 12 villages, thus :-

Soil			Area.		Rate.		
Irrigated			 1,044	Rs.	An. 6	P. 7	
Dofasli	104		 344	1	18	4	
Ekfasli	5.4. ·		 5,462	- 5144 ·	1	6	

These villages are mostly near to Ludhians, and superior ones: but the large village of Nurpur is included, for which the figures are:—

	Soil.		Area.	Rate.			
Îrrigated	***		•	473	Re.	Ae. 10	P. 8
Ekfasti	•••	•••		1,317	0	13	0

The area under tenants-at-will paying cash rents is altogether

Cash rents.

1,584, or 6 per cent. of the cultivation, as
against 8,624 or 14 per cent. under tenants
paying in kind. Only 900 acres, or 3½ per cent. of the cultivation,
pay competition cash rents. The results from the returns are:—

	Irrigated.	Dof	Dofasli.		Ekfasli.	
Paying.	Area, Reut.	Arta.	Rent.	Area.	Reut.	
At a rate on the bigah	34 341-5	6	12 2.0.0	163	258 1-9-4	
Pamb seme o.	31 170 6-1-6	49	148 8-0-4	53 8	1,101 2-3-1	

The last item, as having the largest area, may be taken as most reliable. But the whole area of the return is not large enough to justify any conclusion, and the cultivation by tenants is in no way to be compared to that hy proprietors. The custom of the whole Bet is to take reads in kind, and it is only when he cannot let his land in this way that a proprietor takes a cash rent.

Revenue rates saur tioned. 260. The rates sanctioned and the resulting assessments are as follows:—

Soil.			Area.	Rate.	Resulting assessment.	Hulf-neset Estimate.
Irrigated			2.454	R«. A». P. 3 12 0	9,202	11,036
Dofasli	111		1,458	1 10 0	2,369	2,994
Ekfasli	46.	}	22,200	1 4 0	27,761	29,428
Tot	lai		***		30,332	43,458

When I came to distribute the assessment given by the rates ager the villages of this Circle I found that, even after making allowance for the new alluvial lands, the rates gave higher james than I could take; and those finally reported amounted to 35,535, as against a rate jama of 36,738, which was still an actual increase of 23 per cent. on the last year's demand of 28,288.

LOWER DHAIA CIRCLE.

261. The Lower Dháia Circle of Ludhiana is a continuation of that of Samrala, and a detailed description of it is not necessary. It extends for the whole General description. breadth of the Tahsil, and contains 78 villages with a total area of 73,604 acres, of which 79 per cent. is cultivation. The Dháia portion is much better than that of Samrála, because several fine villages have been included, and the percentage of irrigation

·Irrigated			
Rouslí	•••	***	74
	***		62
Bhúr	•••	***	30

Total cultivation ... The crops and husbandry of the Dhaia portion are the same as in Samrala, while in the Bet lands they agree with those described for the Packa Bet Circles of Ludhians. The land is divided thus between the various agricultural trives :-

Mahomedan Rájputs	• • • • • • • • • • • • • • • • • • • •	30 per cent
" Gújars	•••	9
Aráiens	111	4
Jata Jata	***	··· 3 ,,
Awáns Others	***	6 ,,
39 Others	***	6 ,
Total Mahomedans Hindu Jats	***	58
Other classes	449	35 5 1 € Get and "
C DECT CINGSES	***	7 6 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

100

The Mahomedans hold the villages along the High bank, those with land in Bet and Dhaia; and the Hindus, those adjoining the Upper Dháia.

262. Some of the large villages along the High bank belonging to Rajputs are in very bad condition (such as Condition of the tract. Kum, Dhanansu, Bírmi). The lands of these (both Bet and the Dhaia) are not very good, and the cultivation poors but the assessment is extremely light, and it is entirely owing to the thriftless habits of the proprietors that they are in such a state. The Hindu Jat, Awan and Araien villages are all well conditions. and there is little complaint of debt in most of them. But the wait does not enjoy many natural advantages; and is, as a whole, the work off in the Tahsil. The present assessment was a considerable increase on

that of the Summary Settlement; but it is realized without trouble, except in one or two villages where the lambardars are themselves in difficulties. On the whole, though some of the Dháia lands are very inferior, the condition of the Circle is not really bad.

Of the total area three per cent, has been sold since the Regular Settlement, but three-fourths of this has gone to agriculturists; while seven and a half per cent, is now held in mortgage, half of it by the money-lending classes. The prices realized are by Appendix V (a and b) its. 45 an acre on sale, and Rs. 28 on mortgage; and by Appendix Vc. (Registration returns) Rs. 40 and Rs. 28. The land sold and mortgaged is mostly in the Dhaia. In the returns are included two whole villages (one sold and one mortgaged); and this has run up the area. There is a good deal of book debt; and the Rajput and Grijar villages more especially owe large sums. Land has clearly a very good price.

Changes in resources: cultivation and irrigation. thus:—

263. In the Bet portion of the Circle there has been a large increase in irrigation, and a considerable one in total cultivation,

		Irrigated.	Unirrigated.	Total.
Former	•••	652	8,787	9,489
Present		1,489	9,205	10,644
		+120 p. c.	+5 p.c.	+12 p c

There is the same improvement in irrigation as in the Bét Circles, masonry wells taking the place of unlined ones. In the Dháia portion irrigation has decreased owing to a few wells having fallen out of use. The details are:—

	Irrigated.	Unitrigated.	TOTAL.
former	3,874	43,440	47,814
Present	3,613	44,442	48,055
	— 6 р с.	+2 pc.	+2 p c.

There is the same complaint here as in Samrala, that the sand is spreading; and the loss of wells in several villages would appear to support this. Our returns of soil show a larger proportion of bkúr than at the Regular Settlement; but this probably means that we have adopted a standard more favourable to the cultivators. At best

the Dhaia portion can only he said to be stationary, and there has been a decided decrease in irrigation of about 6 per cent. The other details are for the Circle as a whole, and show that plough-cattle have increased by 11, and ploughs by 22 per cent. The increase in population from 1854 to 1868 was 22 per cent., and only 3 per cent. between 1868 and 1881. The density is not great (399 per square mile of cultivation), and is less than in any other circle except the Jangal.

Rates adopted.

. C.,	Soil.	Area.	Rate.	Resulting Jama.	Half-asset Estimete.	
	January Irrigotad	1,430	Br. An. P. 3-12-0	5;803	6,874	
Bet.	Dofasli	2,676	3 6 0	6,018	7,075	
P	Ekfasli	6,530	1 4 0	8,162	7,894	
	Níši cháhi	2,444	3 8 0	8,554	11,256	
8	Khális cháhi	1,169	2 8 0	2,922	3,380	
Dháia.	Rouslí	29,933	1 2 0	33,674	30,454	
	Bhúr ···	14,509	0 12 0	10,882	9,612	
Ì	Total	•••	1 4 1	75,608	76,546	

I may say here that, when I came to assess the villages in detail, I found it necessary to make some transfers from one to the other of this and the following Circles; and my doing so will account for differences in the jama by rates as shown in the Assessment Reports and in those of the detailed village assessments (Statement E), which latter I also give in all cases. I had no difficulty in taking a total assessment of 80,100 as against an assessment by rates of 79,341, which is an enhancement of 10 per cent. on the last year's jama of 71,404.

UPPER DHAIA CIRCLE.

265. The Upper Dháia Circle contains 117 villages with a total area of 108,145 acres, of which 95,155 or 88 per cent. are cultivated. It is the central portion of the Tahsil, stretching right across it. The greatest length from east to west is 22 miles, and the breadth varies from 2 to 12. The tract does not differ much in character from the

Samrála Upper Dháia. The soil is generally somewhat lighter, and the surface cut up more irregularly by sand ridges; but stretches of as good loam as any in Samrála occur, and the proportion of actually inferior soil is not quite so great. The water level lies at about the same depth (40 feet), and irrigation is quite as easy. The proportion of irrigation is less here than in Samrála (22 as against 42 per cent.); and there is not so much high cultivation. But the unirrigated lands at all events are equal to those of Samrála, perhaps even better adapted to baráni cultivation. The proportion of irrigation, rousli and thúr are—

Arrigated	•••	***	22 per cent.
Ropelí Bhúr	•••	•••	65 ,,
Bhúr			17

No detailed account need be given of the crops and husbandry of the tract, as the description of the Samrála Circle applies to this.

Agricultural tribes, and 266. The proportions of land held by the

tenures. various agricultural tribes are-

ŧ

Of the Hindu Jats the Gareval got hold 26 per cent. of the whole area of the Circle, the test being divided between the Gil, Sekhon, Dhilon and other gots. The Garewals are probably not much inferior as cultivators to the others, but more given to extravagance. Most-of the land of the Circle therefore belongs to the best class of agriculturists. The cultivating tenures are:

	and the control of th	17 1							
By	proprietors cultivating their	r own land	d		76				
$\mathbf{B}\mathbf{v}$	occupancy tonants		•••	•••	4				
	teaunts-at-will	***	***	***	20				
				•					
		Total	*4*		100				
The land under tenants-at-will is thus made up :									
By mortgagors cultivating their own land									
By	proprietors of other land		4++		91				
By	tenants who have no propr	ietary or c	оссирацо у :	rights	8				

Condition of the circle: culturists since the Regular Settlement, most of it dive-eighths) within the village; and only one half per cent. to money-lenders. The proportion of area mortgaged is four per cent. to money-lenders; and of this about one-third is without possession of the mortgagee. The total transfers amount to two and a half per cent, sold since Regular Settlement, and eight per cent, now in mortgage.

In such a large Circle it might be expected that the condition of all villages would not be alike. Some are weak, either on account of

inferior soil, or because the people have got into debt in bad years and have not been able to extricate themselves. One or two vilinges were disorganized in the Summary Settlement, and had their land transferred. But the tenacity with which it has been But the tenacity with which it has been held by the purchasers, and the constant attempts of the original ewners to recover it, show how much it is valued. The great majority of the villages are strong communities, perfectly self-dependent. The proprietors seldom owe more money than they could pay off with a slight effort; and they are able to dispose of their surplus produce themselves in Ludhiana, and watch the market quite as keenly as the ordinary trader does. The dwellings present generally an appearance of prosperity; and there is more display of it than in Samrala. Good houses, good cattle, brass dishes, jewelry are the signs of wealth to be looked for; and they are generally to be found. Most houses have a store of grain, the produce of one harvest being kept til as next one is secure, nuless very high prices tempt it out. Ear tempt of money are speat on marriages and funerals; extravagance of this sort being greatly on the increase. Altogether I think there are unmistakeable signa that the tract has thriven under the former assessment, which gave a slight reduction in the villages that had been

summarily assessed, and has been collected without any trouble at all.

263. Notwithstanding that a considerable area has been taken in resources: up for public purposes (Canal and roads) there cultivation, irrigation. is an increase in cultivation of about 6 per ed; but there is an increase of 3½ per cent. in the number of wells. A comparison of the area irrigated per well gives for this and the corresponding Circle of Samrála:—

Tabsíl.			Area per well of one bucket.		
		9	Níái.	Khális.	
Ludhiána			11	and eit ebel rungsifies allendi	
Samrála	• > •	•••	STATE OF THE		

The average area of crops itrigated annually is about the same in both Talusia. These has been a great improvement in the quality of the irrigated enlitvation, the returns showing the area of irrigated crops as 24 per cent., and that of sugarcane 12 per cent. in excess of what it was before. The increase in the actual productive power of the Circle has not then been very great; but it is quite as much as we should have expected from the small margin left at the Regular Settlement for the extension of cultivation. It is in the value of the produce, and consequently in the profits of cultivation, that

25/3

there has been a marked improvement. On the other hand population increased 30 per cent. between 1854 and 1881.

Rates adopted.

Rates adopted.

Rates have been founded. They are of the same character as those given in the preceding paragraphs, and will be found in the printed Assessment Reports. My object in detailing them in full for the first few Circles is to give an idea of their nature; but in those remaining I will not go into such particulars. The following statement gives the rates finally adopted for this Circle and their results:—

	Area.	Rute.	Resulting James.	Half-acces Estimates	
Niái cháhi	12,437	Rs. As. P. 4 8 0	56,166	65,715	
Khális cháhi	8,170	3 4 0	26,952	30,442	
Dakhar and Rousli	60,196	1 6 0	82,770	95,158	
Bhúr (1.17)	14,332	0 14 0	12,541	12,469	
Total	2 LOT		1,78,429	2,60,784	

The assessments announced and reported in Form E amounted to 120 and the result of the rates, after such alteration in the limits of the rates, after such alteration in the limits of the rates are make, being Re. 1.71 212, and the increase IT per contain the previous demand.

THE PAWADH CIRCLE.

General description.

34,972 acres, of which 27,332 or 78 per cent. are cultivated, and 5,867 or 16 culturable or recently abandoned. It embraces the upper part of pargana Maloud; and is held in jágír by the Sardárs of Maloud, with the exception of three or four villages. There are two outlying villages attached to the Circle. The Pawádh does not materially differ from Upper Dháia, except that the soil is generally harder, containing more clay, and better adapted to irrigated than to unirrigated cultivation. There are one or two sand drifts, and lighter soil in their neighbourhood; but a stiff loam of dark colour predominates. The water level is closer to the surface, being generally at a depth of about 30 feet. Irrigation from wells covers by per cent. of the cultivation. The average population per square mile of cultivation (630) is much higher than in any other Circle of the Tahsil; and only a little lower than that in Upper Dháia Samrála.

Crops and husbandry:
irrigated cultivation.

Ludhiáná and Samrála, so I need not describe
it in detail. The proportions of crops grown
in a year on the nidi and simple well lands
are as follows for every 100 acres of cultivation:

			Nisi (five-sixths.)	Khális (one sinth
rea of crops grown	.,,	·	138	110
of which sugar			14	8
Cotton			15	10

The irrigated cultivation is probably as a whole superior to that of any other part of the District—a result that is due chiefly to the industry of the cultivators. The soil repays to the full the labour, manure and irrigation which it receives; and (the principal advantage) manure and irrigation which it receives; and (the principal advantage) the water level is nearer to the surface than anywhere else in the the water level is nearer to the surface than anywhere else in the labour of irrigation is less.

The unirrigated cultivation is almost entirely on the defasti descilation of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much system. Owing to the nature of the soil much more severely felt. Then in Upper Pháia, and the want of rain is much more severely felt. When the rainfall is copious, very good crops are grown, the yield when the rainfall is copious, very good crops are grown, the yield being probably better than in lighter soils; but, if the fall is at all being probably better than in lighter soils; but, if the fall is at all being probably better than in lighter soils; but, if the fall is at all seauty, the crop dries up. The large percentage of gram and charrissown alone is a proof of a hard soil; for in lighter lands mixtures are always grown.

always grown.

272. Of the total area 94 per cent, belongs to Hindu miscellaneous and miscellaneous industrious and gots. They are a most industrious and large proportion of theirty race; and no other tract can show such a large proportion of their same good cultivators. Even amongst Jame the people of the Pawadh are noted for their industry.

The land is thus cultivated :-

land is thus current			447	82
			4.	2
By proprietors	•••			
By occupancy tenants				16
By occupancy tenants	• •		•••	
By tenants-at-will		• • • •		_
13 c 1011111115-40				a b

273. The returns show that of the whole area one and a half per cent. has been sold since the Regular Settlement and mortgages. and seven per cent. is now held in mortgage. About one half of the sales have been to other members of the village community, and only a third to non-agriculturists. About one-village community, and only a third to non-agriculturists. About one-quarter of the mortgages are without possession of the mortgages,

NS

while the whole of these and about half the mortgages with possession are to money-lenders. Thus:—

. 3.1	To agriculturists.	To non-agriculturists.	Total.
Percentage sold	1	1	11
Mortgaged with possession	21	2 1/2	5
Mortgaged without possession		2	2
Total	3⅓	5	8}

Condition of great prospectly; and the villages are almost without exception held by strong independent communities. In fact I do not know any one village that can be said to be badly of; while some are notorious as containing great wealth. The proprietors dispose of their produce either to traders on the spot, or take it to Ludhiana, and there is not much debt of any sort. The villages were not assessed in the Sammacy Settlement, but paragraph 10 of Mr. Barnes Review gives the following details for the whole jagir, that is this and the Jangal Circle—

Jagirdara' estimate of their collections 1,15,938
Regular Settlement assessment

was naturally enginered, though not vary much; and there is no denot that they took the equivalent of nearly half as much again as the Regular Settlement assessment. The rates at which they made their collections were little if anything under proprietors' rates; and the Regular Settlement assessment gave a reduction of nearly two-fifths on these.

274. Cultivation has increased 16 per cent., and irrigation 21

per cent.; but the number of wells only by 6

per cent. The present return of irrigated area

gives per well:—

•	Class.			One bucket.	Two buckets.
Niái 🛬	•••	•••		12	18
Khalis	***	494 ,	# 9 P	14	21

These are nearly the same averages as in Upper Dhaia Samrala, and our present returns may, therefore, be taken as correct. Plough-cattle has increased by 53 per cent., and the number of other cattle

is shown as somewhat less than before, a result perhaps due to the breaking up of waste. On the other hand, population has increased by 28 per cent., and the present density is 630 the square mile of cultivation.

Rates sanctioned.

275. The following is a statement of the sanctioned rates, and the results.

Soil			Агев.	Rate.	Rosti ting Assessminst	Half- Accet. Estimate.
Niái cháhi			6,619	4-2-0	27,427	28,879
Khális cháhi	•••		1,341	8-0-0	4 033	4.145
Rousli and Dakhar			16,228	1.4.0	20.285	21,778
Bhur	*** 57 ₆		3,114	0-13-0	2,530	2,577
Total	\$162 Tels	2.			54,265	57,377

The americants actually announced amounted to

TIHARA CIRCLE.

276. The Thara Oircle contains 57 villages with a total area of 66,112 acres, of which 59,167 or 90 per cent. General description. are cultivated. It is the south-west corner of the upper part of the Tahsil, and comprises the whole of pargana Pakhowál, and some villages of Ghungrána. Two outlying villages are included, as belonging to this rather than to the Jangal Circle. The natural features of the Circle do not differ very much from those of Upper Dháia. The soil is somewhat lighter, and although the water level is nearer to the surface (about 35 feet generally), irrigation is not so common, only 15 per cent. of the cultivation being irrigated. Of the unirrigated area 78 per cent. is good soil (that is dákhar or rousli); and 22 per cent., bhur or sand. We have no proper record of the rainfall; but it may be taken as two or three inches less than that of the last two Circles. The present density of the population is 493 to the square mile of cultivation.

277. No sugar is grown save in one or two villages. The irrigated cultivation gated crops are cotton or maize in the Kharif, and wheat or barley in the Rabi. The cotton and maize receive the attention that is devoted to sugarcane in the other Circles, and are very superior. The yield of maize in particular is in some villages better than in any other part of the Tahsil. The well cultivation is not so laborious as in the other Circles.

The unirrigated crops are berra in the Rabi (that is wheat or barley mixed with gram, and sarson sown at intervals): and moth, charri, or a mixture of them in the Kharif; and the soil is generally very well adapted to the

cultivation of these. Some land yields a Rabi crop every year, but most of the unirrigated cultivation is on the dofasti dosdla system.

Tenures and agricultural 278. The land of the Circle is cultivated—

By proprietors 84 per cent , tenants with occupancy rights ... 2 ,, tenants-at-will ... 100

Hindu Jats own 78 per cent. of the whole; and there are one or two Balant villages, this tribe having 9 per cent. of the whole land. The process of Hindu Jats are Garewal (18 per cent.). Distinct (10 per cent.), Bhandher (4 per cent.). The Rapputs of the Circle are perhaps werse than their class generally, more thriftless and poorer oultivators.

279. Most of the villages are in very good condition, being in the hands of large and strong communities. The Rajputs are in debt; but the Jats are well to-do, and, as a rule, independent of the money-lender. A succession of good harvests, and the high prices now realized for the inferior grains grown in unirrigated land, have brought a great deal of wealth into the Circle; and in every village some of the proprietors are engaged in trade, and own carts or camels which they ply for hire. Numbers to all the prices well built and controlled, and generally contain good stores of grain and tash. It was not found necessary to give much reduction of assessment in the Regular Settlement (about 5 per cent.); and the present juma has been collected without any difficulty.

Of the total area three quarters per cent, is shown in Appendix Va as sold since Regular Settlement, and of this most has gone to agriculturists. The Registration returns, which are up to date, give a much larger area, amounting to one and a half per cent. of the whole. The area now held in mortgage is four and a half per cent, with possession of mortgagee, and one per cent, without possession. Of the former about one-third is to outsiders and two-thirds to agriculturists. The price of land sold is by Va Rs. 72, and by Ve Rs. 36 an acre; while the averages for the mortgages with possession are Rs. 37 and Rs. 32. For sale the price per rupee of Government revenue is Rs. 50, and for mortgage Rs. 26. Appendix Va gives the price realized for land in this Circle as higher than in any other, and there can be no doubt that this is the sort of land that has most attractions to an investor.

There has been an increase in cultivation of 8 per cent.

The irrigated area has remained almost as it was before; but the area of irrigated crops has increased by 30 per cent, showing, if the former crop returns are correct, that the irrigated bultivation has improved greatly in character. There has been an increase in plough-cattle of 24 per

cent., while the number of other cattle is returned the same as before. Population has increased between 1854 and 1881 by 37 per cent. and the present density is 493 to the square mile of cultivation. The increase in the productive power of the Circle has not been very marked, for there was not room for a great extension of cultivation; and it is principally on the rise in prices that we must found an enbancement of the revenue. This rise has been relatively greater in which are grown so largely in this the inferior rain crops, Circle.

281. The following is a statement of the revenue rates sanctioned for this Circle, with the results on the figures of the Report :-Rates sanctioned.

Rates sanctioned.	figures (of the Rep		Resulting	Half Asset Estimpte
Soil.		Area.	Rs. As. P.	ment.	29,602
Mid obable.		3,310	7.7	9,102	10,137
Khális chahi		39,11	7 1 4	8,485	48,745
Rousli		11,2	43 0 12	0 7,80	8,790
Bhúr				89,5	58 97,274
Total			ounted to	95,998,	the jama by

The assessments announced amounted to 95,998, the jama by rates being, after the transfer of two or three villages from Upper Dhais, 96,073, and the enhancement \$0 per cent.

THE JANGAL CIRCLE.

282. The Jangal Circle contains 29 villages with a total area of 69,026 acres, of which 59,208 or 85 per cent. are cultivated, and 7,479 or 11 per cent. culturable. The villages are all held in jagir by the Maloud family, and lie to the south of the Jagraon Tabail in detached groups, surrounded by Nabha and Patiala territory. The distance from Khiali, the most by Nabba and rausia territory. The distance from Killan, the most northern, is nearly the miles. The latter is more than half way from the boundary of Jagraon Taheil to that of the Siran District. The principal groups are those of Sahna and Dhapáli, which are adjacent and between them contain 21 villages. Sahna may be taken as the centre of the tract, and it is 24 miles from the nearest point of Tihára Circle. The villages are very large, averaging 2,300 acre of total area, and the sites are at great distances from each other. This with the neaven character of the surface and the absence of irrigation, gives the country rather a wild appearance, although there is really little more waste land than in any part of the District. In places great ridges of sand occur, but they are not common; and the soil is generally a good

clay. The returns give the proportion of bisserver and to good soil as 13: 87. There is a little irrigation in the first two villages of the Circle; and there was some formerly in a village of the Salma group, but the latter has been given up as unprofitable. Water is found at a depth of 75 to 130 feet; and is with considerable difficulty raised in the wells round the village sites which are used for drinking purposes. The Sirhind Canal, already under construction as far as Salma, passes through three villages of the Salma group; and it is probable that every village in the Circle will within a few years be reached by some of the distributaries.

Grops and husban- crops grown in the circle:—

RABI TOTAL		65 —	KEARIF TOTAL		45
Barley		5	Joar and Bajra		17
Gram		8	Moth, &c	••	3-5
Wheat and grain		4	Moth with Joar]	21
Barley and gram	•••;	32	Charri	• • • •	2.5
Others		E	Others	• • ;	Į.

The cultivation is mostly on the dofaeli dosala system; but the area under the Rabi crops is somewhat greater than that under the Kharif. The principal crops, it will be seen, are in the Rabi berra, which is here a mixture of barley and gram sown together, with surson separately in lines at regular intervals. The barley and grams are cut together some weeks after the surson, and the grains remain mixed. In the Kharif jour or bajra or moth, &c., are grown separately, or a mixture of them is sown. Where the crops are mixed the heads of jour or bajra are usually plucked before the crop is cut, and the grains are kept separate. The inhour of cultivation is slight, and very few ploughings are required: while, once the seed has been sown, there is nothing more to

be done but to wait for its ripeuing. The Kharif crop is less liable to failure than the Rabi. With good autumn rains the former is secured, and sowing for the Rabi is possible; but if there is a failure of rain at the end, of the autumn, the yield of the Kharif will be poor, and sowing for the Rabi at the proper time impossible. The people will go on waiting in the hope of rain; and, if there is no fall till after the season for sowing the berra has passed, a late crop of barley (called "kanouja") is taken, the yield of which could never be more than about one third or half of a proper crop of berra. Much moisture is not required for the Rabi sowings, as the soil is very retantive; and even with a short fall there will be a good yield in most land. With favourable rain at sowing time, and afterwards in the winter and spring, magnificent crops are grown.

These canditions are the same as for unirrigated land in other Rainfall.

Rainfall.

tracts, but here the whole harvest is at the mercy of the seasons. I have given imparagraph about 18 inches per annum, while in the more remote villages it is less. There have been few really bad seasons during the currency of

Tenures and agriculties. cent is held by tenants, who mostly pay in

The land is thus owned by the various tribes:

Hindu Jats
Other Hindus
Other tribes

... 9

The people of the Jangal villages are a very fine race. They have little labour to do in the fields, and spend their spars time profitably in moving about and picking up what they can by trade. A great many of them take service in the army (see paragraph 49).

285. No part of the district has such a Condition of the tract. reputation for prosperity as this Circle. The people of the more highly cultivated parts are never weary of telling one what immense profits the Jangal zamindárs are making, and what an abundance of land there is; and there can be no doubt that a succession of good seasons, and the great demand for the inferior grains, which are the principal staples, together with the trading habits of the people, have raised the general condition of this tract within the last ten or fifteen years march more comparatively than that of any other. There is every sign of prosperity in the Circle. The houses are large and comfortable, the cattle superior to those of any other parts: and a large proportion of the proprietors own carts or camels with which they go all over the country, disposing of their own grain or carrying for hire. It is for this purpose that such high class cattle are kept, for inferior ones would do for agriculture. Perhaps the way in which money is now spent on marriage and other celebrations is

the best proof of the profits made by cultivation. It is not uncommon for a Jat to expend Rs. 500 to Rs. 1,000 on such an occasion, and I have come across cases where Rs. 1,500 had been wasted in this manner by proprietors of ordinary means. Of course this is extravagance, and often means debt; but still it betokens the presence of wealth.

The area returned as sold since the Regular Settlement is very small (about one-third per cent). The area Sales and mortgages. mortgaged is ten per cent, of the whole area: but of this six per cent. is to agriculturists of the village, and two and a half to non-agriculturists; while eight and a half per cent, is mortgaged with possession of the mortgagee; and one and a half per cent. without possession. The latter is all to money-lenders. I have elsewhere remarked that land was often mortgaged where there was no necessity, and this is the state of a greater part of the mortgages in this Circle, to fellow-sharers of the village. The mortgage is sometimes merely arorm of tenure, the proprietor being unwilling or unable to cultivate himself, and the mortgagee paying down a lump sum for the right of cultivation, which he retains till the money is repaid. The price of the land sold averages Rs. 38 an acre, or Rs. 79 per rupee of Government revenue; but the area is small. The average per acre of mortgage money is Rs. 30, or 60 per rupee of Government demand. These prices are comparatively (with the revenue demand) higher than in any other Circle, and absolutely higher than in most.

The people have been able to tide over any failures of harvest that have occurred during the currency of the Regular Settlement, and to pay their revenue punctually in the worst years. This they do from their stores of grain; for experience has taught them foresight to an extent that is not required in more favoured tracts, and in the possession of most proprietors will be found sufficient grain for at the very least a year's food. The amount stored at any time will depend on the state of the market, for the people can always wait for favourable prices; but I do not think that it is ever reduced below this until the next barvest is insured; which may be before it is cut. The failure of a single harvest, though it cripples the resources of the tract, is not likely to produce any permanent effect, and good ones following soon restore them. The failure of two harvests, that is a Kharif and Rabi in succession, would be more severely felt. The first effect would be a great loss of cattle, many either dying or being sold for ment to polying; and this is what actually happened in the droughts of 1862 and 1888. Besides suffering a great loss of cattle, many of the people would have after a time to incur debt for their own living. Since 1868 there has been a succession of good seasons, very few having been below the average; and this with high prices has not only removed the traces of the previous bad years; but has raised the Circle to its present state of prosperity.

286. There has been an increase in cultivation of 18 per cent. Some irrigation has been given up since the Increase in resources. Regular Settlement; but the whole area is trifling. Population increased by 41 per cent. between 1864 and

1881; and the present density is 318 to the square mile of cultivation, that is half as great as in Circle Pawidh. There has thus been a material increase in the resources of the Circle. The advantages derived from the improvement of communications are greater than in any other tract, and the consequent rise in prices is more marked; and, although great caution is necessary in the assessment of a tract like this, where cultivation is entirely unprotected by irrigation, it is clear that a considerable enhancement might be taken.

Rates sanctioned. 287. The rates sanctioned and their results are as follows:—

aya.	Soil.	•	Ares.	Rate.	Resulting Assessment,	Half Assets Estimate.
Lermatos	1 7 P		0.8	Rs. as. p.	125	6
Rousli	***		52,914	Out o	48,966	47,708
Bisúr	***	•••	6,805	0 8 0	9,401	4,159
Total	111	•••			39,492	52,565

These sanctioned rates gave an increase of about 39 per cent; but the actual enhancement was to be restricted to 33 per cent on the former jama, and the assessments actually announced, which amounted to 38,265, gave this proportion

TAHSIL JAGRAON, BET CIRCLE.

288. The Bet Circle of Jagraon contains 18 villages with a total area of 15,998 acres, of which 9,924 acres or General description. 62 per cent. are cultivated; 4,239 or 26 per cent. barren waste; and the remaining 12 per cent. culturable or recently thrown out of cultivation. To the east for about six miles the River runs at some distance from the High bank; and between them lies a tract three or four miles wide, similar to the Ludhiana Bet, having some land annually inundated, and the rest beyond the direct action of the River (kacha or mand and packa). We have here been able to include villages with only Bet land in this Circle, and to throw those with Bet and Dhaia lands into the Lower Dhaia Circle: but from Bhundri westward the Dhaia and River are only about a mile apart, and the floods reach almost right up to the former, while the villages are large, and their lands stretch from the River several miles south of the High bank. There are none of these entirely in the Bet, and we have here thrown a few into the Circle, although they have Dhaia lands also, in order that the whole tract may be represented in our returns. In the western villages there is very little packa Bet land.

The Budha nala runs through the eastern part of the Circle, and joins the River a mile to the west of Bhundri.

Its banks are high, and it does no harm to the land, which is cultivated right up to them.

The soil of the mand or inundated land is a stiff moist loam of varying depth on a substratum of saud. Soils: irrigation. It is generally of great fertility, and is covered with a fresh deposit of silt every year, so that two crops (mash or rice followed by masar or wheat) can be grown in the year without the aid of manure. Sometimes good land goes by diluvion or is covered with sand and left barren; but as a rule the action of the River is beneficial. There is little packa land west of Bhundri, and the Satlej appears to be getting nearer to the High bank, cutting down the old land and throwing up new mand on its site. To the east there is a good deal of packa land between the Budha nala and the High bank: and the soil of this is generally very stiff and hard. In places there is enough moisture to permit of two crops being grown in the year with the aid of manure; but such land is not very common. Of the cultivated area nearly 4 per cent, is irrigated from wells which lie just under the High bank, or (in the eastern part) round the village site in the packa land. The cultivation at these is very superior, more especially where it is by Araiens. Water is at a depth of 10 or 12 feet from the surface, and can be raised by very ordinary cattle. The average area attached to a Bot well is 8 acres, and 13 or 14 acres of crop are irrigated annually. The account given of the Lower Dhaia Circle will apply to the Dinia lands of this, so I need not describe them here.

Crops and husbandry. erops grown in the Circle:

(жор.		Irrigated.	Unirrigated.	Total.	े के व नमने			Irrigated.	Unirrigated	Total
Wheat			8	24	26	Maize			2	11	13
Barley				8	. 8	Rice				4	4
Gnu	***			8	3	Másh	***			5	8
Masar	411	,	***	6	4	Charri		•••		4	4
Wheat and	Gram	•••		.29	29	Moth				9	2
Others	1	1**	1	•	5	Others	•1•	*11	1	1	2
Total Rabi		***	3	67	.70	Total K	narif		8	27	80

In irrigated land maize in the Kharlf is followed by wheat in the Rabi: and every 100 neres of Gháhi Bết land Irrigated. gives 180 acres of crop in the year. The maize crop is generally splendid, the land being heavily manned and constantly irrigated, besides being naturally very good. I have known fields to yield at the rate of upwards of 30 maunds of maize corn an acre. The maize is followed by a Rubi crop of wheat or fodder (senji, &c), for which no manure is ordinarily used.

In the mand or inundated land the Kharif crop is rice (where there is a great deal of moisture), or mash. Unirrigated mand. These are followed in some lands by wheat, barley or masar in the Rabi, or only one orop (Rabi or Kharif) is grown in the year.

In places there are plots of land which, though removed from the direct influence of the River, are naturally moist The packs Bot. from their proximity to some stream or because lying low; and in these two enperior crops (maize followed by wheat) are grown in the year with the aid of maunre. Where only one crop is grown in the year, it is generally a Rubi of wheat (or of masar in poor land), more rarely a Kharif of charri or maize. The rice, mach and masar crops grown in the mand are very fair, though at best they are of little value. The rice grown is of a very coarse kind, and sells at about 30 seers for the rupee. The muize erop is good in manured had, and very poor in mand or other unmanned land. The charries grown entirely for fodder, and is poor and stunted. The wheat crop is the best of all the unirrigated. The system of cultivation of ordinary land is almost entirely ekfasti harsala, either a Rabi or Kharif crop being grown year after year. It is usual to go on growing a Rabi of wheat for three or four years, and then change to a Kharif of charri or maize for a year or two.

The land is owned by the various **290**. -Agricultural tribes and tribes in the following proportions: -SCOURSE.

Gújar	***	••	•••	39	per cent.
Rájput	•••	•••	***	28	2)
Araieu Other Mahomedans	***	***	***	15	77
Windo Tota		***	•••	8	39
Others	. •••	***	***	3	17
4000	•••	•••	•••-		30
		Total		100	

Of the whole cultivation 31 per cent, is by tenants and 69 per cent. by proprietors. The land under touants is thus divided :-

Held with rights of occupancy. ... 7 per cent. Cultivated by tenants who have rights of occupancy or ownership in other land

By tenants who have no such rights 13

- A large proportion of the land is in the hands of Rajputs and Gujars; and, as in the Bet tracts of the other General condition of Talisils, there is a good deal of debt, incurred principally from want of thrift. But there are a great many well-to-do families in all three tribes (Rájputs, Gújars, Araiens); and some of the villages are in very good condition. The land just over the High bank is the poorest in the Tahsil, and most of the Dhain villages have also land exposed to the direct action of the River; and therefore not always to be relied on. Some have suffered a good deal by loss of land, and this is a sure cause of dobt; but on the whole I think the Circle may be said to be in fairly good condition. The Patwaris' papers show one and Sales and mortgages. a half per cent. sold since Regular Settlement, and ten per cent. (of the total area) as now held in mortgage with possession of the mortgagee. The proportion mortgaged to moneylenders is small (two per cent. of the whole areas. Nearly half of the area shown as mortgaged to agriculturists of other villages is in the village of Bhundri, where a share of a patte has been alienated to some Gujars from across the River, who were in want of land.
- Appendix I shows an increase of 6 per cent, in cultivation, and of 17 per cent, in irrigation; but the Increase of resources. whole area irrigated is small, and we connet draw the same conclusion from an increase of cultivation in a Circle like this as we could in the uplands. What has actually happened is that one village, assessed at Re. 800, has completely gone, and a new village has been thrown up in the middle of the River. A large proportion of the present cultivation is new land. Old land assessed at full rates has goue by diluxion, and light rates have been put on the new land, and the assessment of the whole Circle has fallen from Rs. 10,960 to Rs. 10,163, although the cultivated area is actually targer than before. The area of crops has nominally increased nearly 10 per cont. There is also an increase in the number of ploughs of 47 per cent., and in plough-cattle of 25 per cent., while the mumber of other cattle is shown as having decreased. The enumeration of the last is not very reliable; and a failing off would have no significance, as the people do not keep more cattle than are required for cultivation and for dairy purposes, except in one or two Gujar villages.
 - 293. The revenue rates sanctioned for this Circle and the sanctioned.

 Rates sanctioned.

 estimated results of their application were as follows:—

	Soil. :		Soil. : Ares, Rate.					Resulting Jama.	Half Assets Estimate.
	Irrigated	- :	287	R	A+.		1,076	1,686	
Bét.	Dofasii	i	2,263	2	0	0	4 526	5,200	
<u> </u>	Ektasli	!	8,686	1	4	0	4,453	4,170	
	Cháhi		91	3	0	0	273	488	
Dháin.	Roual		289		0	0	259	5]8	
	Bhúr		B:430	40	10	0.	2,119	2,962	
	Total			714	9"	_	12,766	14.824	

As in other Bet Circles the area to which the rates were actually applied differed from that in the Report, and the total of the village assessments reported was Rs. 11,364 (the rate jama being Rs. 11,314), or an increase of 5 per cent.

LOWER DHAIA CIRCLE.

General description.

(wo Tabsils. It consists in the first place of villages along the High bank, with some good Bet land, irrigated and unirrigated. Some of the villages in the western part run right down to the River and have Bet hand, both inundated and beyond the reach of the floods, besides Dhaia land. The Circle is about 14 miles from east to west and 8 from north to south. It contains 57 villages with a total area of 71,966 acres or 12 square infles, of which 89 per cent, is cultivation. The village sites are generally just on the ridge, and the soil for two or three miles south of it is very light and poor. The surface is uneven in places, and the sand is shifted about by the strong winds from the conth-east. The crops and husbandry are much the same as those described for the corresponding Circles of the other Tabsils.

295. The ownership is thus divided amongst the various agricultural tribes:—

Agricultural tribes and

Hindu Ja	its	•••		70 per cent.
Mahomed	lan Rájputs	•••	•••	5,,
Do.	Gújara		•••	4 ,,
Do.	Araiens		***	11 "
Others	***	•••	***	10 "
		Total	4	100

The Mahomedans hold the villages along the High bank and nearly all the Bet land; the Jats, those further south. The cultivation is in the following proportion:—

By proprietors		•••		79 per	cent.
Cultivated with right				8	37
Do. by proprietors	or or	enpancy ten	ants of		
other land	-113	Section States		8	"
By tenants with no	propri	etary or occ	upancy		•
rights			***	5	19

The Circle has not many natural advantages, for the soil is mostly poor and incapable of yielding very Condition of the tract. much: but some of the Jat villages adjoining the Upper Dhais are more favourably situated, and have good (irrigated and unirrigated) as well as poor lands. These are the best villages in the Circle; and in them the people are very well-to-do. In a few the proprietors are able to go in for a little trade; and the village sites present an appearance of prosperity, carts, good cattle, and some elaboration of the dwellings being the principal signs. Some few Jat families have taken to money-lending. The villages adjoining the High Bank are not at all well-off, either Jat or Mahomedan; and complaints are very generalty made. On the whole the Circle is not in such good condition as would lead as to expect much enhancement of the present assessment: but, on the other hand, there is nothing to show over assessment, for the demand is admittedly light. It is only of the poverty of the soil that the people complain.

Of the total ares of the Circle Appendices Va and b. show one per cent. as sold since Regular Settlement and ten per cent. as now held in mortgage. In both cases only about one third of the land has gone into the hands of money-lenders; and most of the sales have been to members of the vilinge community. The price realized is Rs. 40 an acre, or Rs. 39 per rupee of Government demand; and the amount secured per acre on mortgage with possession, Rs. 29, or Rs. 28 per rupee of the demand. These prices are higher than one should have expected from the natura of the soil.

297. There has been an increase in cultivation of 8 per cent., somewhat greater in the Bet than in the Dhaia. Increase of resources. Irrigation has increased in the whole Circle by 38 per cent, a great number of new wells have been sunk in the strip of land just under the High bank, and in the land sloping down from it. The number of wells has increased by 50 per cent,, the new ones being mostly in the Bet, where the area attached to a well is less than in the Dhaia. The number of ploughs has increased by 58 per cent; and plough cattle, by 15; the number of other cattle heing shown about the same as before; while population increased by 38 per cent. between 1854 and 1868, and has since remained stationary. Except the increase of irrigation, which is mostly in land of the Bet tract, there is not a material improvement in the resources of the Circle, and there has probably been some deterioration of the soil.

Rates sanctioned.

298. The revenue rates sanctioned were as follows:-

	Soil.		Area	Rate,	Besulting jama.	Half-asset esti
(Cháhí		1.097	3-12-0	4,114	6,673
Ber /	Dofasli		2,125	1-10-0	8,458	3,579
_ (Ekfasli	···· [2,157	1-4-0	2,696	2,258
	Niái Cháirí	j	2.811	3.8.0	9,849	11,260
<u>.</u>	Khális Cháht	;	[317-]	2-8-6	869	935
Dháia.	Rousli	!	10,139	1.2-0	11,463	10,067
{	Bhor		44,936	0-12-0	33,702	92,167
	Total		63,665		66,145	66,299

The village assessments actually announced and reported in Form E amounted to Rs. 67,012, or an increase of 7 per cent, on the previous demand, the jama by rates being Rs. 65,146. In the orders sanctioning the rates it had been indicated that, if possible, an enhancement somewhat over rates should be taken.

THE UPPER DHAIA CIRCLE.

General description.

The Circle varies in width (east to west) from 15 to 20 miles, and is about 18 miles from north to south. The Sirbind canal (not yet opened) runs across the whole width. Of the total area 156,424 acres, or 89 per cent., are cultivated; and 11,364 (6 per cent.), cultivable or fallow; the remaining 5 per cent. being barren waste or Government.

property. The soil varies a good deal, being in places a stiff learn, requiring a good deal of meisture. Sand drifts occur throughout the circle, and in their neighbourhood the land is somewhat inferior; but the prevailing soil is a good light learn (Rousli) easily worked and very fertile. There are few villages that have not half of their land of this sort; and, even when the rainfall is short, sowing is possible in some of the land. The percentages of good and bad soils are:—

Rousli and Dákhar, 83 per cent.; Bhúr, 17. Of the cultivated area lies mostly in the eastern and northern villages, westers villages the holdings are much larger, and irrigation is not from the surface at Hatur, while it is only about 35 in villages adjoining the Lower Dháia.

Crops and Eusbandry. 300. The following table shows the crops grown in the Circle:—

	CROP.	E	Irrigated	Unirrigated.	Total.	*	Crop.		Irrigated.	Univigated.	1
Wheat Barley	2 - 11 · · · · ·		6	7	1.6	Minima		• • •	-	-	-
Gran	15 SP					Catton		***			
Wheat and			6.7		1	Jose	***				-
			i ma	. 85	25	Moth) 1 0		***	7	7.
Sarley and	gram	•••	***	10	10	Mash		 .	/.	26	20
Othern			1	11					<u></u> [3	3
						Charri	***			2	2
otal Rabi						Others	***				<u> </u>
		***	7	49	68	Total Kh	arif		-	39	44

The wells are mostly close to the village site; and the crops grown are maize or cotton in the Kharif, and wheat or barley in the Rabi. In the north-eastern villages of the Circle the well cultivation is very superior. The care that is in Samrála and Ludhiána devoted to the sugarcane crop being heat bestowed on the maize, which gets the whole of the village receives frequent hosings till the stalks are well up. Constant waterings are given; and the result is a magnificent crop. The maize is followed a single crop, generally a Rabi one, is grown in the year. To the south and west the well enlitivation is indifferent, and there is little of it. The holdings are large, and the harvests have been so profitable in

unirrigated land for a number of years now, that the cultivator is much more inclined to use his cattle for carrying either his own grain to a good market or for hire. In one village (Rasulpur) adjoining Ferozepur there are 16 wells round the site, not one of which is now working, although the people are all in good circumstances and have first-rate cattle.

The unirrigated Rabi crop is berra, generally wheat and gram, more rarely barley and gram, sarron (rape) being sown with it at intervals in lines. In the Kharif, moth, mung, &c., are principally sown, alone or jodr mixed with them. Berra is the great crop of the Tahsil. The soil is well suited to it, the yield is very good, and the grain has been in great demand for some years now. The sarron does not interfere with the other crop, is cut before it, and gives the cultivator something very considerable over and above his berra. The Rabi is mostly followed by a Kharif of moth, jour, or a mixture of them; and then the land gets a year's rest. The jour from in some of the villages with hard soil about the Grand Trunk

Road and Canal is very fine, the stalks being seven or eight feet high and the liesds very large: and there is generally an under-growth of moth de. The moth mung de., crop when grown alone is very good, the yield of grain not being very great, though better than in other Taimis; but the straw is very utent for leading capita.

Agricultural tribes 2001. The land is thus held by the various tribes in ownership:—

		11 man-1			
Hindu jats		. •••	100		per cent.
Others Hindus		• • •	•••	6	9>
Mahomedan Rájputs	•••	•••	•••	- 8	25
ditto Gujars ditto Araiens	••	***		6	,,
ditto Aráiens		•••	***	4	>2
Others	•••	•••	***	4	"
			-		
वस्त्रधिव नयन		Total	***	100	

The principal gots of Hindu Jats are the Sidhus, Dháliwáls and Gils. The "other Hindus" are Khatrís &c., one or two families of the shopkeeping class having acquired proprietary rights here and there before the Regular Settlement. There are also some Hindu Kamíns (Chamárs &c.) who have propietary rights in a few villages. The Rájputs hold several large villages, or parts of villages (Halwara, Talwandi, &c.) The Gujars and Aráien's hold land about Jagráon, one or two of the Agwárs or sub divisions of the land attached to the town belonging to them. There are also two or three small Hárni villages, and the Maulvis of Jagráon (paragraph 92) own a good deal of land. Of the whole cultivation 78 per cent. is by proprietors, and 22 per cent. by tenants, made up thus:—

(i.)	Cultivated with rights of occupancy	5
(ii.)	Cultivated without such rights, but by	
	tenants who are proprietors or oc-	11
	cupancy tenants	
' (iii.)	By tenants without rights in any land	6

302. The Hindu Jats of the Circle are as a class very well off.

Condition of the Circle:

Jat villages.

Their villages are all fine large ones, in the bands of strong communities; but the members of these are not all equally well-to-do.

Some have thriven and some are in difficulties, and there is a good deal of extravagance, due to the influx of weulth, which often results The Jat population has fully participated in the profits due to the great rise in price of the inferior grain (principally berra); and they have developed more expensive tastes, dressing well, keeping lots of brass dishes, and their women having a great deal of jewelry. The cattle, too, are of a superior class; and most villages have a good many carts and comels that are worked for hire or take the owners to Ludhiana, Large sums are spent on marriage and celebrations, and old men say these expenses have increased threefold: while litigation is a luxury that most of the people indulge in, and will often be found to be the cause of debt. The famines of Sambat 1917 (A. D. 1862) and Sambat 1925 (A.D. 1868) have left their traces in debt, which in many cases has never been shaken off; but the Jat population may safely be said to have thriven under our rule; and to be now in a state of considerable prosperity. Where one of them has got into difficulties and has to mortgage his land. a fellow Jat will always be found able and ready to advance the money; and they could get on very well without the assistance of the maneylending classes, and do so in a great measure. Few are unable to dispose of their grain at the market price; and they are generally able to take it direct to Ludbiana and sell it there. Most proprietors retain a stock of grain which would be sufficient for two or three years consumption, and can tide over indifferent harvests without much loss. During the last ten years a great deal of hard cash has found its way into their hands, and few of them would now have to borrow for the payment of revenue in the worst of years.

Mahomedan villages. The Mahomedan villages are not so well off. Except the Raikot family, which alone holds a large area, the Raiputs are all in difficulties, and that although special allowance was made for them in the Regular Settlement. The

Arsiens and Gujars, too, are badly off.

Appendices Va and b show three per cent. of the whole area sold since Regular Settlement, and twelve per cent. now held in mortgage, most of it with possession. Of the sales three-fourths are to members of the agricultural community, and two-thirds of the mortgages with possession are to them. Of the area sold hearly one-third is that of mauza Morkárima ("to agriculturists of other villages"), bought at the time of Regular Settlement by the Raikot family. The average price is smaller than in the Lower Dháia, as the large area of the village mentioned above has lowered it. The average mortgage money per acre is (Appendix V b) Rs. 35, or 33 times the Government demand.

303. Cultivation has increased since Regular Settlement 12 per cent., and irrigation 13 per cent.; and the number of wells, by 19 per cent. Ploughs

and plough-cattle linve increased by 41 and 29 per cent. respectively. The population has increased steadily since 1854, and is now 33 per cent. in excess of what it then was, the present incidence being 486 to the square mile of cultivation. There has thus been a very material increase in the resources of the tract, which may be said to be in a state of considerable prosperity.

Rates sanctioned.

804. The revenue rates sanctioned for this Circle with the results are as follows:—

	Soil.		Area.	Rate.	Resulting	Half gezet Estimate.
Niái cháhi			8,949	Rs. As. P. 3 19 0	Ra. 33,555	Re 87,878-
Khátia cháli			3,073	2 8 0	7,692	8,156
Rousli and	Dákhar		1,19,495	1 3 0	1,41,900	1,59,784
bhúr	.,-		24,908	0 12 0	18,681	90,817
Total	444			1	2,01,818	2,19,490

The village assessments announced and reported amounted to Rs. 8.01.415; or an increase of 20 per cent on the previous demand. 305. In our calculations of assessment we have General result for the whole District. included all agricultural land, whether liable to assessment or not, as it is a cause of great confusion to treat land as a separate class, merely because it has been exempted from the payment of revenue. Our revenue rates are thus applied to all cultivation; but from the results a deduction must be made on account of mafi or revenue-free land. In Col. 83 of Appendix I has been entered the nominal revenue of such land, so that the Regular Settlement assessment may agree with the area shown in the "Former" Cols. The entries indicated by letters are khalsa including jagir, min, total, the first of these being the jama actually paid, and the second nominal. In the new assessments I have shown at Cols. 101-106 the details of actual and nominal assessments; and to get a correct idea of the result of our new rates, we must compare the revenue of the last year (Col. 84) with the actual new assessments (Col. 104). The figures are as follows:-

			İ	REVENUE.	
1	ahsi l		Of the last year.	New.	Increase with per-
Samráta		•••	2,61,871	3,08,786	46,715 18
Ludhjana			4,30,281	5,11,850	81,571 19
Jagráon			2,33,525	2.71,477	37,98 2 16
Total	,		9,25,677	10,91,915	1,6 6,23 8 18

The appointment of zaildars to be paid by a deduction of 1 per cent. from the revenue was sanctioned over the greater part of the District, and minor deductions were also made from the full assessment on account of land under gardens and for crops injured by trees growing along the main roads. Besides this, where the period of 20 years during which land irrigated from new wells are protected from enhancement had not expired, a deduction from the full assessment for the remainder of that period was made. The comparative demand statement (Form G.) shows the actual immediate increase to the Government revenue, and the following is an abstract of it:—

Tahril.			KHALBA AND CO PAID BY JAIR	. Actual increase	
			Former.	New.	
Famrála	***		2.15,564	2,18,943	33,379
Ludhiána			8,53,556	4,05,789	58.233
Jagráon	**1	*** }	2,27,991	2,59,566	31,575
Total	** •		7,96,111	9,11,298	1,18,187

Thus the net actual gain to Government was Rs. 1,18,187; and this will be increased by about Rs. 6,000, when the well leases have all expired. The gain to the Jagirdars is Rs. 25,391 immediate and 25,974 after the expiry of the well leases, that is the net gain after deduction of the commutation money payable to Government and included in the statement above.

Cosses. 306. The cesses paid at the Regular Settlement and now are at the following rates per cent. on the revenue:—

		and carrier and relative and restaura	The state of the second st
Cess.		Regular Shadraich*	New.
***		*************	8-5-1
*	•••	******	1-0-0
,		*** * * * * * * * * * * * * * * * * *	0-8-0
		1-0-0	1-0-0
410		3-2-0	3-2-0
		5-0-0	5-0-0
•••	.,,	9-2-0	18-15-4
			Cess. Regular Sandramari

We have left the cesses as we found them in 1880, except for the addition of the District post cess which had before been omitted.

307. The Sumrala assessments have been in operation for two and a half years; and those of the other General character of the Tubsils for one and a half. It is perhaps too early new assessment, yet to say how they will stand the test of time; but they were received well. There was not a single case of refusal, and very few remonstrances even. In February and March 1883 petitions were given by some forty villages in the Bet of Ludhiana and by a few in the Dhaia; and these were inquired into by the Settlement Commissioner on the spot, and the result reported to the Financial Commissioner. No reductions were considered necessary. My only cause for wonder is that the greater part of the District did not follow this example, for a village has nothing to lose and may gain something by a petition. I think that the people of the Dhaia at all events expected a much greater enhancement. The Mahomedan Rajputs and Gujars of the Bet are by nature discontented, and it would not be easy to please them ; but I do not think that the addition to the burden of the revenue-payers is likely to press heavily on any part of the District. It is improbable that the prices of agricultural produce will ever fall much below what they are at present; and, when irrigation from the Canal has been fully developed, there will be no part of the district not thoroughly protected against the dangers of drought. Between 20 and 30 per cent, of irrigation is likely to be given to the Tiliara, and Jangal Circles of Ludhisma and to the Dhaia of the Jagraon Tahsil; and the whole uplands of the District will then have at least 30 per cent, of the caltivation protected.

It will be evident from this report, that there is little room for further development of the resources of the Term of Dt W No waste remains to be brought under Bettlement. the plough, and there is not now apparently much further to be expected from a rise in prices. The term for which Settlements are at present usually sanctioned is thirty years; but I think that there is every reason for an extension of this in the case of I should be inclined to recommend that the the Ludhiána District. new assessments be allowed to run for fifty years, as the circumstances of the District appear to point to this term as suitable, except perhaps for those portions which will come within the influence of the Sirhiud canal. The people will always object to a revision, however easy it may be made for them; and I have been asked over and over again to grant leases for a longer period than thirty years, which is, after all, only half a lifetime.

Villege Note-Books. history, the resources, reasons for assessment and other information have been made out according to the directions in the rules under the Land Revenue Act; and it is not necessary that I should describe these in detail. To the Note-book of each village I have attached a form of annual statement exhibiting the agricultural and general condition, changes in the

cultivated area under crops, rents, statistics of transfer of land, &c. I trust that this will be carefully filled in year by year from the vernacular returns. The Patwáris are required to file with the Sadar Kanungo statements in this same form; and these have merely to be translated. Space has also been left in this annual statement for remarks by District officers, if it should at any time be necessary to make them. If this annual statement be properly kept up the data for revising the assessment of each village when the term of the new Settlement expires will be ready to hand.



CHAPTER IX.—The Record of Rights and other matters cosmected with the Settlement.

310. In the two preceding chapters, I have traced the previous fiscal history of the District and given details General account of the of the revision of assersment just completed; Bettlement operations. and I now proceed to describe our operations in connection with the revision of the record of rights, and to give in a form convenient for reference an account of those matters of district revenue administration to which my attention was directed or which were referred by me to superior authority. The operations of the present Settlement commenced at the end of 1878, nominally from the 1st of October. I had been sent a few months earlier with a small establishment for the purpose of instructing the Patwaris, but it was only from the above date that permission to commence work was given. Even then we had not more than a sufficient number of efficials for about half the District, and it was not till the end of the year that the staff was fully made up. I do not intend to describe in detail each of the separate operations of the Settlement which was en the model of those concluded about the time that it commenced (Rohtak, Dera Ismail Khan, &c.); and I will only refer to such points as seem to me to deserve special notice.

Two alternative scales of establishment were submitted to Government, one with a grant for Patwaris' assistants, &c., equal to the pay of the Patwaris, and for a supervising establishment to match, and the other with both of these items much reduced. Mr. Lyall as Settlement Commissioner in forwarding the schedules said, referring to the first of these, "with the measuring establishment which I have proposed in the last two paragraphs, I feel sure that Mr. Walker will be able to complete the revision of Settlement within four years from lat October next. If Government is not prepared to sanction such large grants for pay of Munsarims and Patwari assistants, we shall have to club the Patwaris together and have one measuring party to two circles. The revision of Settlement would in fact be likely to take nearly six years instead of four."-(No. 138, dated 4th June 1878, from the Settlement Commissioner to the Settlement Secretary to Financial Commissioner, paragraph 12). The letter of the Panjab Government forwarding the schedule to the Government of India gave expression to the following views of His Honor the Lieutenaut-Governor (Sir R. Egerted: "The Lieutenant-Governor quite agrees in the view of the Figuredal, Commissioner that to udmit this expenditure will be the truest economy in the cud. The time occupied in completing the Settlement depends greatly upon the duration of the measurements; and it is desirable to bring this stage of the operations to a close at the carliest possible date . . . "-(No. 362C, dated 24 July 1878, from the Officiating Secretary to Government of Paujab, to the Secretary to the Government of India, paragraph 3). I give these extracts in order to show clearly what my instructions were, and because Government

has in the Settlements recently started adopted the second alternative mentioned by Mr. Lyall; and the views then expressed may be said to have already become old-fishioned.

311. There are only three Tahsils in the District, but a fourth

Time occupied by each of the various stages of Settlement operations. Superintendent for the lower part of Ludhiana, which Tahsil is about twice as large as either of the others, was sanctioned, the separate charge being called Pakhowal. The sur-

vey was started in October-December 1878, first in Samrála, and last in Jagraon; and was completed in most of the District by the end of 1879. During the next six months the usual office tests were applied to the new maps and papers, two copies of the field map were made, a rough one for use in attestation and a more permanent one; and then the totals of area were worked out, and the assessment statistics prepared. After this the operation known as attestation of rights commenced, and lasted for about a year; while the fairing of the record and distribution of the new assessment were completed in about one and a half years more. It is impossible to say of any of these operations that it took exactly a certain time even in one Tahsil, for the work does not keep pace in all Munsarious' circles; and there was a difference of two or three months in the rates of progress made in the Superintendent's charges. The only real interruption to Settlement work was caused by the Census in the beginning of 1881, which threw us back some three months altogether. Had we been content with fairing the regards and making them over to the District office, I think that the most of our establishment would have been available at the end of 1882; but it is usual and necessary for the Settlement Officer to have the girdawari of the first year made, and the annual papers prepared by the Putwaris under his own supervision, bringing the record of mutations up to date; and some months were these operations. As it was, our establishment began to be transferred to Amballa in February 1883, most of them left in April and May, and a few as late as August. The faired records made over to the district between June and August; and this would have been done earlier, but that we had first to employ a large establishment for some months in the District Record Office on clearing it of useless records, in order to make room for the new Settlement papers.

The procedure followed. (1883) rules under the Land Revenue Act, and details of them are not therefore necessary. The outline and field surveys were drawn on the plane table by the Patwaris themselves or by Amins trained in the Dera Ismail Khan, Rohtak and other Settlements. I should mention that professional survey of the country was made in 1847-49 immediately after annexation; and that the maps of the Regular Settlement, though accurate for the system then in use, were not drawn to scale, and did not give the correct shape of the outline or of the fields.

In our survey thickbast or boundary maps of all the villages in a Patwari's circle were made out and compared with each other and with those of neighbouring circles before the field survey was commenced. From the thickbast a tracing was taken, and the field map filled in on this, the boundary proceedings and map being kept in a separate file. As the measurements proceeded each field was entered in the khasrah, or field index, and in the rough statement (Chitta khataoni) prepared for each proprietor from the pedigree table (Shajrah nasab) of the co-sharers, and also in a parcha or slip given to each sharer.

Attestation was done on the spot by all grades of officials, with the most satisfactory results. The Patwari Attentation. (and his assistant, where one was appointed) in the first place compared his copy of the old with that of the field map, and the last annual papers with those of the new measurements field by field, noting any discrepancies brought to light in this. Then he went over the land with the villageral attenting the entry in the new papers as to each field (owners ship, tenure, area, soils, &co.), and inquiring and making notice about any points that required this. Esch proprietor had also been given at the time of measurements the usual rough list of fields in his holding, so that every precaution was taken to inform him of what entries were being made. The Patwari then attested for each holding the entry of ownership, cultivation, rent, &c., noting on the rough statements of holdings that he had done so; and made out with the aid of his notes the paper known as Fard badar. or list of discrepancies, containing all mutations and partitions to which effect had not been given in the annual papers, all errors that appeared in the former record, &c. This is the most important paper, as it connects the old record (the annual papers of the last year) with the new; and the reason for every alteration should appear in it. The Monsarim, Deputy Superintendent and Superintendent (the three grades of supervision in the Tahsil) tested the work done by the Patwari in each of the above operations, and themselves attested the rough statements of holdings and the Fard badar. All orders for alteration of the former record were entered in the Fard badar, the Superintendent's order being necessary in all cases of dispute. The faired records were prepared from the attested rough statements and the Fard badar. The other rough papers, the Shajrah nasab, or pedigree table and the Naosha chalidt, or statement of rights in wells, were attested at the same time as the holdings; and finally the Superintendent attested the Wajib-ul-arz, or administration paper of the village.

S13. After announcement of the new assessment of each village,
Distribution of the assessit it had to be distributed over the holdings of the
ment. The method of distribution was
left entirely to the people themselves, who were asked to agree as to
what form they would adopt. This they generally did without much
dispute, and the result was worked out by the Settlement officials and

made known to each co-sharer, the amount of his former and new liability being entered on a slip given to him. I have already (in paragraph 85) said something of the manner in which the original forms of village tenure have been in this matter of internal rating lost sight of to a great extent. In making out the Shajrah masab, or pedigree table, we were able in almost all cases to work out the subdivisions of the original shares, although these were sometimes very intricate. But the people seldom adhered to shares, except in the Bet villages of the eastern parts, where the soil is all much of the same quality, and there are no wells. Generally throughout the uplands differential rates were adopted; or a general one on oultivation, irrespective of quality. In the former case the distinction between irrigated and unirrigated was accepted as sufficient; or in villages where sand prevailed three classes of rates were need, i.e., irrigated, rousli and blur. In very few villages was the difference between midi and ordinary well land recognized; and the relation between irrigated and unirrigated as fixed by the people themselves did not at all agree with what our estimate of the relative value of the lands would have led us to expect. The relation was usually expressed in fractions of the rupeo. Thus the people asked to have their assessment distributed in the proportions of irrigated unirrigated-

9 minus 7 annas this was the actual ratio generally need, or 10 annas : 6 annas. Where three rates were used it would be irrigated rousi unirrigated.

Shor unividated. The preference shown for an all round rate on oul-

(1)	By shares	***	***		221	
(2) (3)	By a general rate on cultivation	***	***	•••	203	
(3)	By differential soil rates	***	•••	•••	493	
				_		
			Total		90 7	
801	1 1 21 6 (6)			-		
	details of (3) are—					
	By rates on irrigated and unirrigated	***	***	***	201	
	By soil rates (three or more classes)	***	***	***	293	

The new distribution did not effect much disturbance in the relative amounts payable by the village shareholders. It is the internal rating that brings home to each proprietor the fact that his land-tax has been increased, and complaints were freely made where any one of the co-sharers considered himself unduly assessed, first to the Superintendents, and, on appeal from them, to me. In all about 10 per cent. of the villages were up before me on appeal, and in very few was a second appeal made to the Commissioner. The disputes usually took the form of one subdivision of the village, which had better land or more wells, wishing to have the distribution by a

general rate, while the others wanted differential rates. Where the villagers themselves would not agree, the dispute was generally ended by the appointment of arbitrators.

Protective lesses for wells. In quiry was made as to every well sunk within the last twenty years; and a lease was given exempting the land from the difference between the irrigated and the unirrigated rates of assessment for so much of this period as land not expired. We were as liberal as possible in giving these leases, and it is not unlikely that some were granted to people not strictly entitled to them; but liberality in this matter was, I think, necessary. The full assessment in these cases will come into force as the leases expire. In all protection by way of deferred assessment was given as follows:—

Bamrála	***	***	200	•••	•••	
Ladhiana	444	•••	•••	***		
Jagréon	414	***	***	•••	••	1,519
		ANTIGE		Total	-	7,273

In Appendix XI have been shown the expenditure on the Settlement, and the receipts from all sources Cost of the Settlement. up to December 31st, 1883, the time when the statement was made out. The total cost of the operations was Rs. 4,94,267 against which must be set off receipts, principally on account of money realized from proprietors and tenants for the faired extracts from the record, supplied at a charge of eight nunas each (final parchas), and the contribution due from the Jagirdara as their share of the expenses. This latter item may require correction, as it is taken from the statement of sums due which was submitted for sanction to the Settlement Commissioner. The net cost is by these reduced to Rs. 3,56,138. There was a small additional expenditure amounting to Rs. 4,627-10-6, incurred during the quarter ending 81st March 1884, up to the time that I finally left the District; and this raises the net cost to Rs. 8,60,786. If reference be made to paragraph 305, it will be seen that the immediate net gain to Government is Rs. 1,18,187, or 33 per cent. of the net expenditure. Thus in three years from the introduction of the new assessments the enhancement will have covered the expenditure incurred in the whole operations; and, as the new jamas in Samrala Tabsil had effect from Kharif 1881 and in the rest of the District from Kharif 1882, most of the money spent has already returned to Government.

Treported that out of 296 Patwaris only 99, or one-third, could use the Persian character, and there were very few of the whole body who were really efficient. But I soon found that most of the men in office term past their work, and were quite willing to give place to the near generation, their sons or other relations, who had been properly

educated in the Government schools, and were very good material for instruction. Such as were hopelessly inefficient and had no Persian writing relations, were dismissed, after having a fair trial. Although the instruction of Patwaris had been going on for some time in the District, this must have been merely nominal; and much valuable time was consequently wasted by Settlement officials in endeavouring to bring them up to the state of efficiency in which we ought to have found them, besides that many could not from the first assist to the extent that was necessary in the preparation of the new record of their villages. About one-third of the survey was done by the Patwaris who were in office at the time; and a good deal more by assistants who have since been appointed to the office. The attestation was performed almost entirely by Patwaris, for I refused to allow assistance to any man till he had done some of this stage by himself, and only gave it where the work was too heavy to be completed by the one man in a reasonable time. In this manner the responsibility of the Patwari for the correctness of the record was insured. Most of the fairing of the record was also the work of the Patwaris, the assistants making the copy.

The Patwaris are now 300, distributed as follows:-

~ ()		PARTY TOTAL VIEW		00
Samrálu	***		***	83
Ludhiána	***		***	138
Jagráon	***		***	79

of whom 267 work in the Persian character, and 83 in Hindi. The necessity of regarding ancestral claims to some extent stands in the way of our getting the best men, but still I think that we have secured a staff of very fair educational attainments. Many Patwaris have passed the Middle School Examination, and a few even the Entrance. I have endeavoured during the last two years to have those that did not actually map instructed in the use of the plane table; and there are now very few who could not map if required to do so.

Note.—I should have mentioned that the pay of the PataAris, which is levied at the rate of Rs 3-2 per cent on the revenue, has been with the sanction of the Financial Commissioner, funded; and the Patwaris have been arranged in three grades according to merit, thus:—

	Grad	is,	Eate of pay per month.	No. of Patmiria
i			 13	88
<u> </u>	***		 9	149
111			 7	4
	Tota	J	 	. 800

The Patwari ceas will be collected with the revenue, and the pay distributed quarterly.

A Patwaris' Note-book, containing details of area, &c., for each circle and remarks on the Patwari himself, has been made out and handed over to the Deputy Commissioner. When a vacancy occurs in any grade it should be filled up by promotion; or, if it is in the lowest grade, by a new appointment from the list of accepted candidates. If the Note-book is maintained, there will be no difficulty in deciding the question of promotion.

Another object which I have endeavoured to attain in filling up vacancies is that the Patweri agency should be act be recruited, as it has been heretofore,

Patwari agency should be exclusively from the mercantile classes. I think that there is much more chance that a

man of the agricultural class will do honest work as a Patwári than a Sud or Khatri, with relations all about him engaged in the moneylending business, besides that we own much more to the former as revenue-payers. The Suds of Ludhiana held almost every circle within ten or twelve miles of the City, besides nearly all the Kanungo appointments. The Patwaris in the Bet were of this tribe, and many of them carried on large money-lending businesses, openly and in their own names, with the Mahomedan proprietors. It took a good deal of trouble to break up the clique, which was a very strong one, the Sads being the most clannish tribe in the district, and many of them: being high up in Government service; and I have no doubt that every. means will-now be employed by them with a view to the recovery of their ascendancy. I would warn the Deputy Commissioner against having too many men of this tribe amongst the Patwaris. opportunity occurred I have appointed a Maliomedan Bet; and I have also given circles to Jata in the Dhaia where I could; and I Lope that this policy will be continued. The list of accepted candidates will be found to contain a large proportion of men of the agricultural class, both Hindus and Mahomedans.

Tabel Kanango agency consists of one Sadr and six Kanango agency.

Tabel Kanango and Naibs. This is of course wholly insufficient for the supervision of 300 Patwaris; but, in anticipation of sanction. I have made arrangements for the scale recommended to Government for this District in the provincial scheme, as follows:—A Sadr Kanango with an assistant for the District; and for the Tabells, one Tabell or office Kanango each, with Girdáwar or field Kanangos as follows:—

Samrála		***	•••	***	34
Ludhiána	***	•••	•••	***	6
Jagráon		111	***	***	3

We ought perhaps to be content with this, but an extra Girdáwar will certainly be required in Jagráon when irrigation from the Canal' is developed, if the necessity does not actually exist now, as I think it does.

Annual papers.

Annual papers.

Annual papers.

Descriptions are to the preparation of the annual papers by the Patwaris, and rules concerning these officials and the Kanungos, defining their daties, therefore, unnecessary that I should say much on the subject of the maintenance of the record. A set of instructions regarding the annual papers was drawn up by me and approved of by the Financial Commissioner; and the system is now being acted on for the second year. The papers of the last year were made out under my own supervision.

and the work of this year is going on while I am in the District, so that there is every hope that the system will work, especially as the Deputy Commissioner (Mr. Wakefield) has personally interested himself in it, and has put it under the special charge of an Extra Amistant of some Settlement experience. The chief objects that we have endeavoured to attain are—(1) to have a correct return of the crops of each harvest; (2) to keep the record up to date by making out regularly the register of mutations, and giving effect to all changes in proprietary and cultivating rights. The Girdawars are the backbone of the system, and these mon, Patwaris selected because they have done the work of their circles well, have now had upwards of a year's training in the duties which they will have to perform. I have no doubt that the Patwaris and Girdáwars will be quite able to do their part of the work—to make the girdawari and prepare the register of mutations for the attestation of the Tohsildar and Naib; and I am hopeful that these latter officials also will be capable of doing what is required of them—to sitest on the spot the mutation register of each village. In Ludhiana Tahsil an additional Naib-Tahsildar is certainly required (as before noted, we had two Superintendents and two complete supervising establishments in charge of it during Settlement operations; ; and I have recommended that one be appointed. The work will be much too heavy for a Tahsildar and oue Naib.

The method in which the annual inquiry for the assessment of lands subject to the direct action of the River Bustem of alluvion is made, and the papers prepared in the course of or I dilavion inquiry. this, require to be noticed in some detail. The system entered in the Majib-ul-are of the villages at the Regular Settlement is that by which no action is taken where the increments or decrements are less than 10 per cent. of the whole assets of the estate; but in 1862 that known as the Chak system was introduced by order of the Commissioner. Under this a separate tract is marked off, comprising the area that is likely, within a reasonable time, to be affected by the action of the River; and no notice is taken of changes outside of this. The line may be drawn so as to include a whole village or only a portion of it, in the latter case the part within the limit being called the kacha, and that without it, the packa. In the tract thus marked off all cases of changes due to the action of the River were taken up, and the assessment increased or decreased according to the result of the inquiry. In calculating the amount of assessment or remission the village rates of Settlement were used; but the officer making the assessment was not bound to these, a general discretion being allowed of fixing what amount appeared suitable for the area to be assessed. As a rule, however, the result of the rates was adhered to. The chief faults that appeared on an examination of the working of this system were-first, that the rates in many cases differed very much in adjoining villages. Thus it did not matter if a very low rate were applied to the few acres making up the whole land of a village at the time of

Regular Settlement; but when many hundred acres had been added and were assessed at this rate, because it was that of Settlement, great inequalities resulted. In many cases the land of one village was found to be paying double as much as exactly the same quality of land in that adjoining. Secondly, land was assessed either as dofasti or ekfasti; and the question of which rate should be applied came to depend entirely on how the Patwari classed it. If two crops or one of augaroane were raised in a field in any year, it was liable to be assessed at the higher rate and continued to be, although never again so cultivated.

The same continued: limit of the kacha and packa Chaks.

The same continued: limit of the kacha and these I will next describe. The first step taken by us was to re-arrange the line of delimitation.

tion, where this had become necessary on account of changes in the course of the River during the last twenty-five years. In doing this I endeavoured to meet the wishes of the people as fur pessible, although it was not easy to satisfy them, and at the same time have a division that would last for even a short period. Outside of the limit new cultivation will not be liable to assessment during the term of Settlement, just as in any other part of the District; and it is not until the people of a village are compelled to apply to have their lands, or the packa portion of them where there are two Chaks, transferred to the kacha that any account will be taken of changes in the area of cultivation. I think that it is this confining the inquiry to as small an area as possible that constitutes the strong point of the Chak system. It is, of course, unavoidable that transfers from and to the kacha will hereafter become necessary as changes occur in the course of the River, for it would have deprived the system of its chief advantage if we had fixed such a limit as would be likely to last without any alteration at all for the term of the new Settlement; but I do not anticipate any difficulty in meeting cases of this kind as they arise. The provisions sauctioned as to transfers to and from the kacha are on the one hand that, when a village with land in the kache has for five years remained unaffected by the direct action of the River, the Deputy Commissioner may give it a fixed assessment; and on the other hand a village hitherto in the packa may be transferred to the kacha on an application to the effect that it has become liable to such direct action.

Rules for assessment of said in the kacks.

S21. The following principles of assessment were finally laid down after a good deal of correspondence:

(1.) All culturable waste land to pay one anna an acre in its grazing aspect.

(2.) New cultivation to be assessed as follows:—

First year ... one-quarter
Second year ... one-half Of the chief into
Third year ... three-quarters sanctioned for the Circle.
Tourth year ... the whole

Uniform rates for each Circle were thus introduced; and it was at the same time decided that the assessments given by them should be adhered to absolutely, the power of departing from them as he thought fit, which the assessing officer was allowed formerly to exercise. being withdrawn. It was thought advisable to provide that new cultivation should not, during the period of the revised Settlement, be ever liable to bear the dofacti rate. The loss to Government involved in this last provision is likely to be inconsiderable; and I think it was wise to deprive the subordinate officials of the power hitherto enjoyed by them in this respect. We have classed the Bét land very carefully with the crop returns of two or three years to guide us; but this was done under very strict supervision, and the result is reliable. would be too much, however, to expect that the Patwaris and Kanungos would do it properly from year to year. Reductions of assessment on account of abrasion or other injury will be given exactly by the soil rates, so that the assessment of a village or portion of village in the kacha will be in any year the exact result of the revenue rates. The file of correspondence relating to this matter has been made over to the District Office; and for further details I would refer to it. The conditions of assessment in villages liable, or likely to be liable, to the action of the River will be found in clause 14 of the Administration papers; and a vernacular set of instructions has been printed and distributed to the Patwaris and supervising agency.

222. Some account has already been given (paragrapha 88-94) of Mar anterents of re- the principal Jagirdars of the District. The Mar Yeave : gyperal account. loud family (paragraph 88), which alone enjoys half of the whole isgir income of the District, had established itself under the Empire. The others are mostly the descendants of the petty Chiefs or Confederacies who, on the downfall of the Delhi Empire at the close of the last century, partitioned the country between them, and came under our protection in A. D. 1809 in the manner described in Chapter II. These Chiefs and Confederacies were at that time virtually independent, though it is probable that, but for our interference, they would all have been even ually absorbed by their more powerful neighbours. few of the Jagir families, again, have been from the first dependent, having originally had an assignment of a few vidages made them by some one of the more important Chiefs (e.g., Kapurthala, Nábha), and being transferred to us in the annexations of 1846. From 1809 till the outbreak of the first Sikh war in 1845 we had little to do with the internal administration of the estates of the Jagirdars, who were pllowed to govern much in their own way; but at the close of the Satlej Campaign in 1846 a great change was effected in the status of all but the seven important Cis-Satlej Chiefs, who were maintained in the full enjoyment of that virtual independence which is allowed to protected States (See Griffin's "Rajas," where the proclamation of the Government of India on this subject is given in extenso). All villages not belonging to the seven excepted Chiefs were incorporated in our territory along with what we had acquired by conquest and confiscation from Lahore, Nabha, &c.; but even after this we exercised but little authority within the estates of the Jagirdars, for we only abolished the transit duties and deprived them of their police jurisdiction in the first instance. When, however, the second Sikh war was followed by the annexation of the whole of the Panjab, their power was still further curtailed; and finally, about 1850, it was decided to substitute for their hitherto undefined exactions from the people a fixed cash revenue demand. This last measure, when carried out, reduced all Jagirdars alike to the position of mere assignees of Government revenue; and it was a great blow to most of them. They had considered themselves as lords of the soil; and I do not think that their rights over the land were at all inferior to those of the Zamindars of Bengal. The Jagirdars had realized from the cultivators a full proprietor's share of the produce, and there was really no limit to their exactions, except the fear of driving away their villagers.

To most of the families who had before been independent the jagirs were continued in perpetuity, nuless, of course, they had compressived themselves in the Sikh war, and were punished for this by confiscation. The tenures of the others were considered on annexation, and more or less favorable terms were given, some being maintained in whole or in part for the lives of the holders only; and, when this course was pursued, subsequent lapses have reduced the villages to the condition of shared. In other cases the original grants were only of a portion of a village.

The Chiefs and Confederacies had always been liable to furnish tribute or levies, or both, to the paramount Commutation power; and the contribution had taken the latter form on their coming under our protection. When the final change to a fixed cash assessment was introduced after 1849, it was natural that the irregular demands for which the Jagirdars were liable should be replaced by a certain tribute. This in most cases took the form of a contribution at the rate of so much (one to four annas) per rupee of revenue; but for some of the confederacies it was the estimated cost of maintaining a certain number of horsemen or footmen. In Ladhran and most of the small jagirs the rate of commutation is two or four nums per rupee of revenue; while in Maloud, it is two annas, except in the branch of Sardar Mit Singh, in whose favour a reduction was made to one anna on account of service: performed in the Mutiny. I may mention here, as an example of the second form of payment, and as the solitary instance in the District of the istamrari tenure, the case of the village of Lulton. This is held by the descendants of a Garewal Jat, called Chaulidri Galanda, subject to a fixed payment of Rs. 1,100 per annum, and the cost of maintaining tour horsemen at Rs. 16 each per mensem, i.e., Rs. 768 per annum more.

For the collection of the commutation money in some of the minor jágírs, where the shares are much subdivided, the head of the family has been appointed Sarkarda, or headman; and is paid by a percentage deduction from the amount which he brings into the Government treasury for the whole jágír.

1 The Jágírdárs, besides enjoying the revenues of their villand ewned by Jágírdárs. Birs. Inges, will be found in many cases to hold in absolute ownership a considerable area of land. This is usually the Bir, or waste land reserved by the ancestors of the family for their own use, as a grazing ground, for the supply of firewood, &c. These Birs have, with the exception of one or two in the Maloud pargana, been brought under the plough long ago, and are cultivated by the tenants of the Jágírdárs. The land of absoconding cultivators was also considered as belonging to the Chief, and the Maloud Sardars acquired a considerable amount of landed property in this way just after the introduction of the cash demand of the Regular Bettlement.

825. The following abstract statement gives all the necessary details statement of fagire. as to each of the existing jagirs of the District:—

Number.	Name of Jagir	Name of Jägirdär.	0 0	Jagir or Shared	1 5 5	Commutation Money,		RAWARE.
			Namber			Rate,	≜monnt	
1	Ladhran	Sardar Shamsher Singh	10	44		!	_ <u></u>	
2		Parder Ganda Sinch and others	25	Jagir Do	10,722	Per rupoe	3,014	,
4	Bharl or Kotla Padia Pentivala	L41 Singh and others Hira Singh and others		Do	7,611 5,231	Ditto	901 644	# fratoriel by of Ja gird 4 * s
8 7	Dicta Walkes 100 Rhose 000 Shamepur 000	Mardie Etrpit Single Bishen Hingh Mit Bingh and others	11		9,704 544 3,567	Ditte Ditto Four aneau	976 69	Tory his
8	Kotla Ajuer Nishānawāts	Joila Singh and others Bishira Singh and		Shared	3,068	None,		
•	Saloudi (frater-	Others Dasondha Singh and others	4	Pa	1,703	None	361	Asia Nu. 4 Ditto
11	Bagrian Jolewála	Mt. Kishen Kour		Jagir Sharet	1,109	None		Charatable grava,
	TOTAL TARMIL SAM				60,493		1,311	
] 9 3	Ramgarh Waloud Intto, (younger	Surdir Ctam S. ob Surdar Desus Brigh	33 12	Дарат В с	43,136 15,7⊴0	Тжо вивая Опи виня	5,"91 967	there for are th
4	branch) Bez	Sardie Sundar Singh Bardar Balwant biogh		βα, Do	7,792 16,369		187 2,284	Afth.
6	Rhose i ár Kot ,	Dewa Singh and others Pir Dalip Chand		Dn Do. ,	8,361 3611,1	Dute Dute	119	family. A gran from the Malous
7	Bágrian ,	Shai, Marain Singh	1	Do	4,952	One span	729	femily.
9	Armenli Hána	Samend Singh and	ι	Do		Two annes	229	Baurala,
0	Miscelleneous	others	14 	Shared Do	2,596 16,602		2,074	_
_	TOTAL TARREL L		90		1,09,387		12,239	
	Jagraon Tahai jagiru	l, miscellaneous peary	13	Shared:	7,723	None		
•	TOTAL OF THE	DISTRICT	151		1,77,603		19,660	

Out of the revenue of the Jagi: dars shown in column 6, they have to pay the commutation money shown in column 8. Jagráon Tahsíl was held entirely by the Rais in the first place, and after them by the Kapurthala Chief, from whom we annexed it; and the jágírs in it are really charitable grants of whole village or shares, there being nothing to correspond with those held by the families and confederacies of the other Tahsils.

The Jagir Registers have been maintained in the District Office according to the form prescribed in the Directions to Revenue Officers for Pattidári tenures; and these registers we have now made out

afresh, bringing them up to date.

326. The usual inquiry was made in each case where a plot of land was found to be held revenue-free (mafi), Máfic. with the view of testing the validity of the authority under which it was hold, whether the area was covered by the sanction, and whether the persons in possession were entitled to the grant under the original terms. The grants of the District were of the usual three classes (1) in perpetuity, (2) for the maintenance of institution, (3) during the life or lives of the grantees; but the greater part of them were of a fourth class, (4) sanctioned for the term of the With respect to (1), (2) and (3) our inquiries Regular Settlement. brought to light no discrepancies of any importance, and only one or two cases had to be reported for fresh sanction; but in all cases of grants for the term of the expired Settle-Grants for the term of ment, fresh sanction by Government or by the expired Sattlement. the Financial Commissioner was necessary. These grants (4) were either personal, in tayour of Brahmins or others

of the priestly class; or they were for the support of some religious or charitable institution. Most of them were petty and unimportant, and the sanction under which they were held was that of the Settlement Officer or of the Commissioner, accorded between 1850 or 1853. It had clearly never been the intention that these grants should be enjoyed in perpetuity, or they would not have been treated differently from the more important ones, which come under classes (1), (2) and (3). The principles on which we have now dealt with them are as follows. Where the object of the grant was the support of some institution, and this was found to be maintained, continuance was recommended and sanctioned; where the grant was a personal one, and the original grantee or his children were in possession, the same course was followed; but where the grant was personal, and was held by a number of sharers, the descendants in the third or fourth generation from the original grantee, we generally recommended resumption, or rather that the grant should be allowed to lapse. The new sanction usually continues the grant for the term of the revised Settlement or for the life of the holder, whichever period expires first; but, in the case of the grantee dying within the period of the Settlement, the Commissioner has the power of continuance

to the heirs for the remainder of this period. I should mention here that all cases in which resumption of grants of class (4) was recommended were reported to the Financial Commissioner in a vernacular register; and that all those proposed for continuance were entered in two sets of English registers, one for those cases in which the area was under ten acres and the sanction of the Financial Commissioner was sufficient; and the other for those which required the orders of Government, because the area was in excess of ten acres.

The general result of the inquiries as to cases in which the previous sauction was for the term of Settlement is as follows:—

			Number of cases.	Aren.
Resumed	•••	•••	281	1,216
Continued		•••	490	3,936

The following is a statement of the number of cases and the area of the petty grants of all kinds in the District as they now stand:—

	HELD: PAIU WILL COND	TOUT	Haid Pour Institution		HRLD FOR LIFE OR LIVES.		HELD FOR THE TARM OF SETTLEMENT.		Total.	
Name of Tansil	Number of	Area in sorte	Munber of	Area aorea	Number of	Area in	Number of	Area in norm.	Number of	Ares in acres.
Bamrála	87	61	82	283	87	226	64	625	190	1,176
Ludhiana	. 3ò	259	* (11o	1,451	771	810	227	1,943	418	4,463
Jagráou	. 33	381	64	773	13	711	183	1.202	331	3,070
retal	103	701	226	2,487	182	1,700	171	0.770	317	×.7+8

New registers of the existing grants have been prepared in vernacular and made over to the District Office.

Zaildárs. The system was, after a good deal of discussion, introduced, the appointment of Zaildars to be paid by a deduction of I per cent. from the revenue being agreed to by Government. The people themselves were strongly opposed to the measure from that feeling of dread of one of their own class being entrusted with any sort of authority over them, which is characteristic of, but perhaps not peculiar to, the agricultural population of the District. There were no special reasons why the system should not work in this District as well as it has done in others, except that it was thought that it might interfere with the semblance

of local authority still preserved to some of the larger Jagirdars. The jágirs of Maloud and Ladhran were, therefore, excluded from its operation. In the rest of the District the Zails were arranged within the Tahsils, so far as was possible, Arrangement of zails. according to tribes; although in many places it was found quite impossible to group together villages so as more than partially to secure this object. The Bet tract is in the hands of a Mahomedan population, belonging to the Raiput, Gujar, Jat, Araien and Awan tribes; but the villages of these are, as a rule, so mixed up that, although it may be said that one or other of the tribes predominates in a certain portion of the lowlands, we could not arrange any single Zail so as to consist entirely of villages of the same tribe. Mahomedan Raiputs and Jats own most of the Samrala and Upper Ludhiana Bet tracts; while in the lower part of Ludhiana and in Jagraon the Gujars are in a great majority. Amongst the Jats of the uplands it was in like manner impossible, except in the case of the Garewals, whose villages are grouped together to the south-west of Ludhians, to arrange the Zails by gots.

The Zans were so arranged that the revenue of each should be as size of sails,

Size of sails,

allowance of Rs. 200 to each Zaildar.

A zaildar was selected by me in communication with the Deputy Commissioner from amongst the leading Lam-Mode of appointment. bardars in each Zail. I think that the appointments have, on the whole, been such as to win the confidence of the people; but in some cases there was undoubtedly difficulty in finding any one fitted for the position. There has hitherto not been much inducement for members of the agricultural class to come forward as leading men; but I think that these appointments are likely to furnish an incentive. As vacancies occur it will be possible to take the votes of the Lambardars without any danger beyond that of the free use of bribery, which appears to be the necessary result of giving a small body of voters the right to nominate to a paid appointment. The ultimate success of the scheme will depend a good deal-on how it is worked, and what use is made of the Zaildars. If the true position of the Zaildar be borne in mind, that he is a representative of the people on whose assistance Government officials may rely, and not merely the man to whom commissions ought to issue in civil cases when he is not acting as assistant to the Deputy Inspector of Police, he will have little opportunity of abusing his power. It is in my opinion the tendency to use the Zaildars as the sole means of communication between Government and the people, and to treat them as officials, that has afforded the opportunities for misconduct, of which they are said to have taken advantage in other Districts. The peculiar disadvantages under which the system appears to me to labour in Ludbiána is that mentioned at the commencement of this paragraph, the weakness of the tribal organization; for I know of no District where want of union amongst the agricultural population is more marked. If

villages lie in groups, each belonging to one tribe or got, it is certain that one or two men will be regarded as the heads of the tribe or got; but in Ludhiana there is very little tribul feeling anywhere, and almost every single Lambardar in each zail was a candidate for the appointment.

328. The following is a complete list of Zails and Zaildárs of the District according to the appointments made by me. For further particulars I would refer to the Zaildár's note-book and map in the District Office:—

List of Zails in the Ludhiana District.

1	2	3	•	1	6	6	7	8						
			Zalie.		3.5		Name, O Galling tribes (M = Mishouredan H, = Bindu.)		Zajia.		leger.	f, &c.)		
Mumber	Tabaff.	Number to Tabet.							Nem: , &c., of Zeildare.					
1		1	Beblotpar		27	16,100	M. Juts and Pajpots	Patieb Khan, Pathan, of Bahiolpur,						
2		ц	Salasowii		43	17,186	Ditto	Fatteh Khas, Rajpan, of Sameowal.						
		-	Polimb		18	10,000	Ditto wish a few St. Jule. See.	Pois Mahomil, Jat, of Poisrat.						
4		ίτ	Kutélá	-	13	19,300	M. Jate and Rajpon	Sented Thee, Bijpht, of Entels.						
	}		Jágir Ladhran		35	34,863	of violage	No appointment.						
6		Ti.	Usálán J	•••	13	15,774	B. Jets	Rahal Singh, H. Jat, of Utalan.						
7		₹iı	Melmezra	•	14	21,563	Ditto	bem Singh, Hindu Jet, of Melmazre.						
٤	1	f 51-1	Bhari	•••	11	20,895	Disto	Lil Stogh, H. Jat, of Bhari (Jagirdar).						
٧	BAMBALL.	12	Khers	•••	17	17,675	D.:to	Surdarm Nibal Kour, Jager- per a sedon of Kheel.						
19	8	1	Labir Masca		15	15,577	vitto	sher Singh, H. Jat, of Lober Macen						
11		xi.	Baháwau		12	20,527	B. Jate and M. Hej-	Nato Bakkah, Rajput, of Bahawan						
13		zii.	: Balondi	,	7	16,210	H. Jats	Jowethir Bingh, H. Jac, of Purbs.						
13		xiù.	Rapaion		18	17,231	Disto	Kéhn Siagh, H. Jat, of Espaion						
14		ziv	Mohanpur	•••	13	19,635	Duto	Joshe Singh, H. Jat, of						
16		27	Aikoláka	***	15	19,172	Ditto	Kishen Singh, H. Jet, of Bir Kishen dingh.						
16		zvi	lura	•••	11	8,189	Ditto	Saban bingh, H. Jat, of lern.						
17		171	Jahbomazra (Jagir village	m.)"	9	1 1,597	Ditto	One man appointed to re- present each of the two brenches of the family.						

[277]
List of Zails in the Ludbiana District—Continued.

1	3	8	4		5	0	7	8	
-		Zeies.			of villages.	Kerende Ned, ke.)			
Tabell.	Tabell.	Aumther in Taber	Name.		No. of vil	Land Reve	Prevailing tribes (M = Wabomedan U = Hindu ;	Name, &c., of Zaildars,	
19		1	Batishwál		25	16,954	l Juin, Rajpate, Gojero,	Diddr Bakbab, M. Jat, (Baliahwal),	
tu		j și	Katani Kadin I		19	17,588	H. Jata	Deve Singh H. Jat. o	
20		iu	Chounts	•	2-4	19,235	1 Rejpate Gijare	deme Khan, Bajput, Chounts.	
21		· iv	Mattewara	**	27	19,038	Ditto	Patteb Khin, Hajpita	
23			Sholspur	46+	17	30,318	Ditto H. Jata	Nibil Single, Jos. of Bholone.	
20		17	au		18	17,745	S. Jule	Eheade Singh, Jot, of Gi	
34		72	Sthaesti		14	19,419	Ditte	Mahtaba, Jat, of Sahnews Kalan,	
15		Hite	Umedpax	***	16	17,786	Ditto	Fouju Singh, Jat, of Umed	
26		ix	Lalton	•••	13	21,686	Ditto (Garewal god)		
27	LUPRIANE.	1	Badowál	***	16	21,593	B. Jate (Garewal)	Nibal Singh, Garewal of Badowil.	
20 j	ž,	ir ļ	-anct		12	17,221	H. Jula	Partish buigh of Jawas	
79 	-	x it	Ladhans	••	51	15,057	. M. Adjara, Rajyuta . maral-talayedlanga	I and the second	
50		ziii	Kanahád	••-	\$9	21,516	t cheming Linears	Phab Mahomed, Awan,	
B3		živ į	Nurpur	n.	25	14,975	W. Gujare, &c	Roshen, Gujar, of Kharak	
12		XA	Dákha		13	17,639	H Jate, &c	Rutal, H. Jat, of Dakha.	
13		ΣΥĴ	Raiper	•••	9	19,540	H Jate (Garons))	Sedha Pingh, Garewal (
34		RTÜ	Phioker	}	14	31,237	H. Játe	Hemraj, Jat, of Shankar.	
86		Taiji	Bateri	••• }	6	6,087	Jats, Kalals, &o	Samend Singh, Jagirdi (Kaial).	
34		zix	Ghangrana	}	13	17,474	Ř. Jata	Jowahir Singh, Jat, of Ghungrana.	
* 7		XX	Dharkot	•••	- 11	18,875	Ditto	Hira Bingh, Jat, of Dharke	
36		xxi	Pakhowá!	}	11	17,355	Ditto	Dais Singh, Jat, of Pakhe	
39		unii	Tajpas		34	18,360	Ditto and M. Baj.	Dalls, Jat. of Talpur.	
40		rriii i	Latálá		9	15,633	puts.	Nand Stugh, Jak, of Laula	

List of Zails in the Ludhiana District-Concluded.

ı	2	3	4		5	6	7	8	
		Zatle.		Zatle.		B. Bc.	Prevailing tribes		
Namber.	Taheil.	Number in Tabett.	Name.		No. of villages Land Recebus (with Maf. &c.		(M = Mahomedan B = H ndn)	Name, &c., of Zaildara,	
41	_	i	Bhendri	,	22	15,928	M. Gojare, Armina, Rajputa,	Ali Bakheb, Gújar, of Gorsian.	
- 60		jì	Ridbwan	-	21	\$0,400	H Jate, Arsins, Gu-	Vacant.	
46		iii	Gháilb Rolán	•••	13	19,860	H. Jate, &c	Bukan Singh, Jat, of Ghább Kalán.	
44		iv	Baradi khás	•••	16	30,830	H. Jata	Khanin Singh, Jat, of Sawadi,	
45			Mandifut	•••	13	16,950	Ditto	Naram Singh, Jat, of Mandiau.	
48		vi	Báne		9	17,880	Ditto	Samandu, Jat, of Bane.	
47	AGPLOK.	vii	Jegraon	•	W.	21, 47	Duta Goirre, Reg	Sharif Hasai, Saiad, of Jagrain.	
46	J 403	≠it:	Kionki		ial	16,425	E. Jate	Panjib Singh, H. Jat, of Kasnki.	
40		iz	Akbára		7	15,425	Ditto	Natha bingh, Jet, or Rumi.	
\$0		1	Mallah		ō	13,785	Ditto	Mable Singh, Jat, of Malia,	
61	į	ъd	Lakha	•••	\$.	19,560	Ditto	Sabab Singh, Jat, of Labba,	
- 45		zii	Banjas		10	18,850	Ditto.	liam Singh, Jat, of Bibinn,	
E)	, ,	niii	Raikot	**	10	23,400	Ditte und M. Raj. para, &c.	Bai Ahmed Khán, Bájpút of Telwandi.	
54	ĺ	Ziv	Ab <u>älg</u> arh	:	11	19,730	H. Jate and others	Ganesh Mal, Ehatri, of Akalgarh.	
58		Z.A.	Mohi			21,176	H. Jate	Anup Singh, Jet, of Mohi.	

329. In addition to the Zaildars it was at first proposed to appoint Ala Lambardárs in the larger villages: Zamindári inams. but for this was substituted, after some discussion, a scheme for granting to selected Lumbardars inams, to be deducted from the revenue. The total of these infins was not to exceed 1 per cent. of the assessment. Lists of the Lambardars selected for these grants were submitted by me, and received the sanction of Government. As far as possible the inains were confined to villages with more than three Lambardars, as the object of the Ala Lambardari system, of which they were to take the place, was the strengthening of the Lambardari agency in large villages; but it was also desirable to distribute them over the District as much as possible, and the size of the villages varies a good deal in different parts, so that I found it necessary to give one or two in villages with less than four Lambardérs. The inams were of three classes—Rs. 20, 25 and 30 per annum, and averaged Rs. 25, which gave two to each Zail.

I here transcribe, in explanation of these indine, and for reference,

the conditions on which they have been granted.

(1.) "They are sanctioned for the term of Settlement, and are within that term held for life, conditionally on good conduct and the rendering of assistance in the district administration."

(2.) "They are to be vacated as the appointment of the holder to

a Zaildárship.

(3.) "As lapses occur, through death or otherwise, the Deputy Commissioner has the authority, with the concurrence of the Commissioner, to appoint a successor selected from the Lambardárs of the same Zail; and the Commissioner's orders as to the appointment are final.

(4). "It is distinctly laid down that the inams are not of an

hereditary character."

Notice of officers.

Note of officers.

Note of officers.

Note of officers.

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Munshi Charanjit Lal (since deceased) was our Extra Assistant Settlement Officer up to the end of 1882, when he was appointed to officiate as Extra Judicial Assistant. A great part of the civil and revenue case work fell to his share, and he also gave material assistance in the preparation of the record. Munshi Ahmad Bakhsh, the best of the Superintendents, was appointed to succeed Charanjit Lal as Extra Assistant, and he has now gone to Amballa in the same capacity. Munshi Ishar Das, who held enarge of Jagraon Tahail as Superintendent for three years, till his transfer to Rawal Pindi, earned for himself a great reputation for honesty; and the work done under his supervision was un loubtedly the best in the District. Munshi Jodh Singh came from Rohtak and took charge of the Ludhiana Talisil after the completion of measurements. He is a Settlement official of well known ability, and showed good powers of organizing and managing a large establishment. He has now been appointed Tahsildar of Jagraon, and I am glad to be able to leave him behind me in the District, for his knowledge of Settlement work is likely to be most useful. Of the Deputy Superintendents Karm Shah and Amir Chand were the best; and they have now been promoted to the post of Superintendents, having latterly officiated in this capacity under me.



सन्त्रपंत्र नवने

CHAPTER X .- THE RECORD OF CUSTOMS.

- 331. The following account of the usual inquiry made at Settle-Contents of the chapter. Insert as to Tribal and Agrarian custom I had intended at first as an appendix (No. XV); but under orders of superior authority it has now been included in the body of the Report as a final chapter. It will be available as a volume in the series of "Punjab Customary Law," and may be styled "An account of the Tribal and Agrarian Customary Law of the Ludhiana District." In Vol. III of the series the inquiry into customary law is divided into two parts:—
 - (I) .- Questions of tribal custom,
- (II).—Questions of local or agrarian custom; and, following this order, I will first give an analysis of the new record of Tribal Custom.

PART I .- Tribal Oustoms.

- 332. In paragraphs 43 to 57 of this Final Report will be found only the castons of a description of the tribes and subdivisions the screenical dibes to of them amongst which the population of the tribes are not them amongst which the population of the tribes are that it was ever intended that these inquiries into custom were to extend beyond the land-owning tribes; and I should, in any case, have had great hesitation in undertaking such a task as to investigate the customs of the mercautile and artizan classes in a district with such large and populous towns. What we have recorded, then, are the ensteams of those tribes only which come under the class of sprioultorists in the statement of population given in paragraph 45. These make up more than half of the total population of the District.
- For the purpose of attesting the customs each of the three Tabsils was taken up separately. Except in Arrangement of the the case of the Hindu Jats it was not found agricultural population by tribes and localities for the necessary to make out more than one Code for purpose of attestation. each tribe, because the numbers belonging to no other in any one of the Talisils are so great as to make it expedient to have subdivisions for this purpose; and there is no diversity of custom inside the tribes. I have explained in paragraph 50 the manner in which the claus of Hindu Jats are intermixed even within the same village; and, except in the case of the few mentioned there, we could scarcely have done the attestation and drawn up a separate Code for each of the gots; besides that it would have been useless to do so, for the customs of one got do not really differ from those of another. We, therefore, in dealing with the Hindu Jats, first separated off the

few gots which were of sufficient importance to have Codes of their own, and arranged the remainder in each Tabsil according to locality, making use of the old pargana subdivisions for the purpose. The following statement shows the number of codes attested for the whole agricultural population of the District:—

Nar	ne of Iriba	Tabsil Sam:ála.	Tabsil Ludhiána.	Tabell Jagram.		
Kabomedan.	Rájput Jat Gujar Araien Dogar Awán	Whole Talisil, Ditto, Ditto, None, None, None,	Whole Tabsil. Ditto. Ditto. Ditto. Ditto. Ditto. Ditto.	Whole Tabsit. None. Whole Tabsit. Ditto. None. None.		
Biwłu.	Jat	Pa. Bahlolpur and Utalan. P. Khanna, ilaya Kheri.	Got Gil. Bhandher. I'a Sahnewal and four others.	Got Sidhu. Got Gil. Ps Jagráon and Akálgarlı. Ps. Sawadi, Bhundrı and Sidhwan.		
		P. Khaona, Pagas Isru	(P. Chinerana, P. Caklow, II Haja Maloul, Daya Jangal,	Us Baikot and Hatur,		
	Rájput Lobána Balui	Whole Tubsil, Ditto. Ditto.	None. Whol Taball. None.	None, Ditto, Ditto,		

(In the above P. stands for Pargana).

This arrangement gives thirty-four Codes of Tribal Custom.

When the agricultural population had been arranged in 334. the manner described above by tribes or sub-Method of attestation. divisions into manageable groups, representatives were selected for every village or portion of a village belonging to each group. The Lambardars were included, and to them were added others who were known as leading men amongst the co-sharers. A Deputy Superintendent was then put in charge of the work for each group. He first proceeded to search the shajrak nasab, or pedigree table, of each village, and to note all instances of inheritance, transfer, &c., that appeared likely to be useful in the attestation. The representatives of each group were then called on a date fixed; and the questions carefully explained to them. Their answers were taken down with such instances as they could give; and were attested in detail either by the Extra Assistant Settlement Officer or by me, the work of recording and attesting the answers taking two or three days for each group. I had intended to do the whole of the attestation myself, and completed it for more than half of the District; but press of other work compelled me to leave the rest to the Extra Assistant Settlement Officer, and to content myself with checking the records after their completion.

The questions were taken from Mr. Tupper's work on "Punjah Customary Law," Vol. III, Part I, The questions; and the manner in which they were with a few alterations which were necessary to received. make them suit the capacity or the requirements of the people. The representatives evinced the greatest interest in the whole proceedings, and discussed each question in a manner that showed them to be fully alive to the importance of the inquiry and auxious that their customs should be faithfully recorded. was seldom any diversity of opinion as to what answers should be given; and, where instances of dissent occurred, they were almost always founded on some personal interest, the objector having a case of his lown which would not fit in with what the representatives were anxious to have declared to be the custom. There was found to be diversity of practice on some points; but the almost perfect unanimity as to what the rule ought to be was most striking.

General remarks on the subject of customs ary law.

discussion on Tribal Custom, especially after the able and exhaustive treatment that the aubject has received in Mr. Wilson's account of the customary law of the Sirsa district and in the other volumes of the series. All the more important points that have arisen in our inquiry are fully considered in the following analysis, and little beyond the description that I have given of our proceedings is required by way of preface,

There are one or two points, however, to which I may usefully refer. I think that a mistaken view is still generally Danger of custom beprevalent amongst those entrusted with the adcoming crystallized too guesty a m to : mane ministration of the law of what englit to constitute a valid tribul custom. It is usually considered by the Civil Courts, following ideas derived at first or second hand from English law, that such a custom is established if it fulfils the conditions requisite for all customs, i.e., is not contrary to law or morality, is certain, &c., and if it is supported by sufficient number of precedents. ** appears to me that it would be most dangerous in a country like the Panjáb, in which after all law and order have been established for only a generation, and of parts of which the resources are as yet only developing. to accept instances that occurred in an early stage and in a condition of society widely different from the present, and on them to found a hardand-fast rule to be applied to all cases that may arise in the future. do so would be to ignore, or rather to strangle, what is aptly termed the law-creating faculty of the people, which is their only means of adapting a custom to an altered condition of things. This is an element in all inquiries into custom that ought to be recognized and given full weight to. Against a rule which is once taken as established by the Courts there is apparently no remedy except legislation, however inapplicable the rule may have become; and so much of the substantive civil law of the country as comes within the scope of these inquiries into Tribal Custom will not, I trust, be the subject of legislation for a very long

time. In seeking proof of a tribal custom regard should not be had merely to the few precedents, or the statements of the witnesses produced in evidence by the parties to a particular case in which the question of the custom is in dispute, but rather to the general expression of the tribal opinion at a time when, owing to the absence of disputes, this can be relied on as unprejudiced. I was much impressed with the perfect unanimity displayed by the representatives of some groups in rejecting what had been held by the Civil Courts of the District to be an established custom on the force of the precedents which had actually occurred, but certainly were not a sufficient basis for a rule.

The element for which allowance should be made in endeavouring to derive a rule of tribul custom from pre-Customs must alter cedents is whether the state of society and the with changes in the condition of society. conditions under which they occurred are such as to make the instances applicable to cases arising in the present time. The greatest divergence between the custom as held by our Civil Courts and the tribal opinion takes place in regard to interference with the natural order of succession to property in land. For instance, before our annexation of the Ludhiana district thirty years ago there was more than sufficient land for the wants of the agricultural population; and each proprietor had as much as its could cultivate or was willing to undertake the responsibility of, for under our predecessors the burdens attached to the possession of land were heavy. Every proprietor had to provide for the cultivation of his land and the payment of the Gereroment revenue; and, if he happened to be old and childless, he had to get some one to assist him in the cultivation, or even to undertake the whole responsibility of proprietorship. His aguates had perhaps as much land as they could manage, and would decline to add more to it. Under these circumstances the proprietor naturally turned to his wife's relations, or to the family into which his sister or daughter had married; and brought in, with the tacit consent of the agnates, some one who would take the place of a sou. The condition of things is now completely changed. The searcity of land is, with the increase of population, making itself feb more and more, while property in land has acquired a clearly recognized and marketable value, which was quite unknown thirty years ago. The tribal feeling now is that a co-sharer in a village has but a life interest in his share of the land that he inherits, and that he should not be permitted to do anything that will injure the rights of the reversioners. If the agricultural population had their own way in the matter, they would undoubtedly establish something recembling a general law of entail; and, however objectionable restrictions on the power of a proprietor of land may be in principle, or when applied to large estates, I think that most officers who have a knowledge of what is now going on amongst the agricultural population would be inclined to agree with me in thinking that such a law could not but operate for the good of the mass of the peasantry. It is not necessary to pursue this subject further; and all that I have said is merely intended to illustrate the divergence between tribal feeling as to what a custom should be, and the view that is apt to be taken by the Civil Courts.

338. The method usually employed for seeking the proof of a custom appears to me to be founded on a confusion In investigating a of ideas. Two parties come into court in a dispute custom one should not relating, say, to the succession of a daughter's look merely to instances. son in preference to colleterals. The burden of which may be exceptions, but to the expression of the tribal proving the existence in a certain tribe or got of a custom by which the daughter's son succeeds in preference to the agnates, which is certainly treated by the Courts as a departure from the natural and ordinary law of inheritance, is on the party alleging it; and he is able to point to 12 or 20 instances in which the succession has gone in this way. But suppose that before the dispute arose the whole tribe were assembled and questioned on this point. The answer would almost certainly be that the instances quoted were more exceptions to the rule of the tribe, and had no effect, probably because the succession had taken place with the consent of the squares. I do not refer here to decisions of the Courts, where the point was notually disputed, because the validity of such decisions is really the question that I am now considering. On the other side of the case, what proof of the absence of a custom can be produced by the party denying it? It may be known that in hundreds of instances a daughter's son did not succeed, or a proprietor did not make a gift of his land, because this was recognized as contrary to the custom of the tribe. But how are such instances to be proved? The best evidence against the existence of a custom should be recognized as consisting in the denial by the leading men of the tribe or got of such a custom, and the repudiation of the instances quoted in support of it as exceptions.

Value of the Tribal Customs has been drawn up after careful Codes now attested.

Civil Courts with a clear statement of what is recognized by each tribe or got as the rule on most points that are likely to arise. If a custom has been recorded as admitted by the representatives of a custom has been recorded as admitted by the representatives of a tribe, or if it is denied, the instances of its existence being repudiated or exceptions, there should be the strongest presumption in favour of such a statement of the custom—a presumption not to be overcome otherwise than by overwhelming evidence that the statement is wrong. It should always be open to show that a decision of a Court on any such point was wrong, for I think I may say that such decisions (I speak, of course, of those by the subordinate Courts) are too often founded on insufficient data, and to follow them blindly, because they are decisions, would be to build up a custom on absolutely no foundation, every fresh decision, though wrong in itself, being taken as additional evidence of the existence of the rule. The evidence of a custom is

341

too often looked for in the District Record Office only, the last place in my opinion to which resort should be had.

- Of the manner in which customs after to keep pace with the changing conditions of society instances customs will be found everywhere in the Codes. Thus altering with the progress of soriety. the disintegration of the family, the substitution for it of the individual, and the breaking down of the paternal authority will be seen from such facts as the disappearance of the custom of "Chunda vand" succession, where the wives, and not the sons, were the units. In the matter of marriage, too, it is certain that the liberty of a grown-up woman, or, at all events of a widow, to contract berself will be in time established, for I do not suppose that the Courts would hold that the marriage of a widow celebrated with the usual ceremonies would be invalid, or the offspring of such a union illegitimate, because the consent of the deceased husband's heirs had not been obtained; but before our rule began such independence on the part of a woman could not have been imagined.
- 341. There are other points on which much might be written, Neglect of the Maho-such for example as the complete supersession medan and Hinda law. of the Mahomedan law wherever land is concerned. The Mahomedan land-owners, with the exception of the Awans, its all converts from the Hinda religion; and even amongst the Awans to attention is paid to the rules of inheritance prescribed by the Sharah, where the succession is to land. The Hindu law is equally neglected, and the soil appears to impose its own laws on all classes alike.
- 342. It will be seen that no clear distinction is maintained in the Codes between ancestral and acquired distinction No clear maintain of between ancesproperty. An agriculturist has a right to do tral and acquired property. what be chooses with moveable property of all sorts; but the limit to his power of disposal extend- to all immoveables. In truth, the idea of acquiring landed property otherwise than by a grant of waste or by inheritance is entirely a growth of our rule, really of the last 15 or 20 years. The acquisition of land by purchase is now not uncommon, amongst the Jats at all events; but no distinction between this and inherited property in land is recognized, and the roles of succession, restriction on slienation, &c., would apparently apply to both alike. The idea, perhaps, is that such property is acquired by means of the ancestral property; but, at all events, the answers to the questions showed no tendency to exclude it from the accepted tribal rules.
- 343. I do not give an abstract of the Tribal Custom, because I No separate abstract of hope that the Analysis will be found sufficient-the Customary Law made. ly condensed for all purposes; and an abstract would be merely a repetition of what will be found in the following paragraphs.

ANALYSIS OF THE CODES OF TRIBAL CUSTOM.

Section I,—FAMILY AND TRIBAL CONNECTION.

344. Question 1.—Are any persons considered to be relations
Who are termed relations
(warisan) besides those who are descended
from a common ancestor? Are any of the wife's
kindred considered to be relations (warisan)
of (1) the husband, (2) the husband's relations

or children?

All tribes are agreed that only agnates are included in the term (wárisan), and that none of the wife's kindred are to be so designated, this answer being of course suggested by the word wáris, which was used in the question and really means "heirs." A man's own relations and those of his wife are called sák, which word includes both relations and connections by marriage; and relationship is sakfri. A wife's relations are specially known as saors; and I need not detail the several particular names of them, which will be found in any distionary. This first question is a general one, not intended to elicit a statement of any custom; but I would note that Mahomedans and Hindus alike repudiated the idea of a wife's relations having any sort of status in her husband's family.

745. Question 2.—Explain your system of reckoning generations.

The system of reckoning By how radary generations are the following generations.

Programs said to be related to the person whose relatives are to be related. (1) Brother, 4%.

The reckoning is everywhere by neighbors as distinguished from degrees; but the matter is of no practical importance in connection with the devolution of property. In keeping the setak, or time of purification. it is usual amount Hindus to include as relatious those descended from a common ancestor up to a certain generation. Some of the answers gave a method of calculation similar to that noted by Mr. Wilson in Sirsa, reckoning the number of generations back to the common ancestor. Thus an uncle or a grand-uncle and all his descendants are in a sense said to be in the same degree of relationship; but I think that this was an invention made to suit the question. Brother, cousin, &c., are generally spoken of as in the same generation; father, uncle, son, nephew, as in the second; grandfather, grand-uncle, grandson, &c., as in the third. The remaining questions of this Section in "Punjab Customary Law." Vol. III, are intended to elioit answers descriptive of the constitution of the family and of the tribe; and information on these points will be found in sufficient detail, I trust, in the previous chapters of the Report.

SECTION II.—BETROTHAL.

The age at which betrothal takes place.

346. Question 3.—At what age can betrothal take place!

Betrothal can take place at any age—the answer given by all tribes. A betrothal is an alliance between two families. In the pure form (pun), in which there is no money consideration, the ceremony takes place

when the parties are not more than five or six years of age, and the same is the case when an exchange (rata sata) of betrothal is effected. Where money is paid the parties, especially amongst the Jats, are often much older; and, where they are grown up, marriage follows very shortly after betrothal.

347. Question 4.—Who has the power of making the contract of who has the power of betrothel, and whose consent is necessary? Is betrothel, that of the parties required?

The consent of the parents or, if the father is dead, of the guardian, is necessary in all cases on the side of the girl; and also on that of the boy if he is a minor. If the boy is of age, he can contract a betrothal, whether his father is alive or not. Perhaps the original custom should be stated more strictly than this by saying that the betrothal is arranged between the families on both sides. But, as the family breaks up and the paternal authority loses its force, the son would assert his right of acting for himself when of age. One or two cases were quoted amongst the Rajputs and other Mahomedan tribes in which a grown-up girl had contracted a marriage without consent of her parents. Of course such action was not admitted as lawful by the representatives of the tribes; but, if the marriage ceremony had been duly performed by a priest and consummation had followed, I do not think that a Court of Law would undo it. The right of guardianship in the matter of betrothal will be found discussed under question No. 26.

348. Question 5. Describe the formalities observed on the Permulities of betrothal: occasion of a betrothal. By what formality Hindu Jatu: pun contracts. does the contract become binding?

In paragraphs 77-79, ome account has been given of the ceremonies attending betrothal. Where amongst the Hindu Jats the betrothal is run, or without consideration (the only pure form including the ratta satta or reciprocation of betrothel), action is taken by the girl's parents, who search for a suitable match. On finding one they send their higis, or go-betweens, generally the priest (parchit) and burber (naie), sometimes with offices (phinwar, &c.,) when the family is one of position, bearing presents to the house of the family selected. consist of a sum of money (varying from 1 to 21 mohars), sugar or dates (misri, chuhára, &c.) from 51 to 11 seers (kacha weight). When the ldgis arrive at the boy's house his relations and the neighbours are called together, the boy is scated on a chair, and the money and sweets are put into his lap by the lágis, and a little of the latter into his mouth (all such presents are called shagan or "of good omen"). The boy then salutes the assembled people; and after that his parents divide sugar amongst them. The father of the boy presents some money to the lagis to be taken back to the girl's parents-no amount is specified, but it may be rupees or mohars. The lagis take of this as much as they have been told by the girl's parents to accept, generally one or two rupees only, returning the test. The ldgis also get something for themselves; and then return to the girl's parents.

The Garewals and other high gots of Hindu Jats profess to regard where money is taken the taking of a consideration for a girl as a for the match.

sin; but there are not many families in any of the gots that refrain from doing it now-a-days. Where money is taken the girl is the commodity to be sold; and the boy's people begin. No lágis are sent by them; but the boy's father or some near relation with one or two others go to the girl's house and a bargain is struck. The price is said to have been in former times Rs. 40 at the time of betrothal, and Rs. 80 afterwards, at the time of marriage; but as much as Rs. 500 is not at all an uncommon price now. When the bargain has been struck the girl's parents send their lágis, or generally one man (naic), to the boy's house, and ceremonies similar to those described above are performed.

The Lobánas, and Sainis have similar ceremonies to the Jats; and their betrothals are almost invariably for money. It is said that the boy's people must send after the ceremony a present of clothes and jewelry to the girl.

The constitues observed by all Rajputs, Hindu and Mahousedin; are the tame, and differ but little from those of the Hindu Jats, except that money is never taken in this tribe for a betrothal. The girl's people send to the boy's a present of a few rupees, a ring, clothes and sweets in charge of the lágis, who are generally three or four in number, a Brahmin (parchit), náie, mirási, jhínwar, chamár. The employment of the Brahmin by the Mahomedan Rajputs is remarkable; and also the use of the ring, which we find, too, amongst the Sainis. When the lágis reach the boy's house the same ceremonies are performed as in the case of the Hindu Jats, the ring being put on the boy's finger, the clothes and money into his lap, and some sweets into his month, in the presence of his relations and the neighbours. The Qázi is sometimes called to give greater formality, and the ijáb qabúl is asked and answered.

Amongst the Mahomedan Jats the ceremonies described above are Other Mahomedan tribes.

Described when the parties have made up their minds for the betrothal; the niie of the girl's people comes to the boy's house with one rupee and sugar, and presents them to him in the presence of the relations and friends, sometimes staining his hands with mahadi. The people assembled are fed with sweets, and a present is sometimes sent back to the girl's house. The Rajputs and Jats, being converts, have retained their Hindu customs almost in their entirety.

Amongst the Mahomedan Gujars, Araiens and Dogars, the father and a few relations, or the relations alone, gotothe girl's honse, an arrangement having been made beforehand, and give presents of sweets, clothes, &c., for her. The Qázi is called, and the ijáb qabúl asked and answered by the parties making the contract. The boy's relations are fed and dismissed, usually with a present of clothes (khes, &c.) On their arrival at their own home they distribute sugar to their relations in

token of the betrothal. Amongst the Awans it is the custom for the boy's people to go to the girl's house. The betrethal is agreed to, and in token of it the girl's people give a piece of cloth (called reza) to the boy's, who distribute a small sum amongst the lágis of the girl's people; and on their return to their own village divide sugar amongst their friends. The priest is not called.

As to the question of which of the ceremonies make the betrothal contract binding, it may be said that in the By what formality does case of the Hindu Jats the betrothal is comthe betrothal become bindpleted when the sweets and other presents brought from the girl's house are handed over to the boy before his relatious by the lágis of the girl's people. Where the boy's people go to the girl's house they merely strike the bargain and pay some of the price. The ligit of the girl then go, as in the other case, to the house of the boy and complete the betrothal by the usual ceremonies. The payment of part of the price agreed, where a consideration is taken, would only complete the agreement to betroth, not the betrethal. Amongst the other tribes, too, no particular part of the ceremony appears to be essential, like walking round the sacred fire in the Hindu marriage. The formalities observed in a betrothal are merely the expression of an agreement between the two families and the announcement of this to the world, and religion has no part in them.

849. Question 6.—Is a man who has contracted a betrothal Priority in betrothal entitled to marry another wife before he entitling to priority of marries her to whom he was first betrothed; marriage.

or does priority in betrothal entitle the girl to priority in marriage?

All tribes except the Mahomedan Rájputs of Jagráon, who are of the Manj get, are agreed that priority of betrothal entitles to priority of marriage; and that, if the boy is married to another girl first, the girl's perents have the option of breaking off the betrothal; but amongst all the Hodu tribes, where a brother or a cousin has left a widow, the boy may marry her by the karewa form of marriage in order "to preserve the honor of the family." without projudice to his right in regard of the girl betrothed to him. The custom of karewa will be discussed later, and it will be seen that a woman by marriage virtually becomes the property of the family into which she goes; and it is recognized that, when she becomes a widow, some arrangement must of necessity be made to get her another husband in it.

Reasons for which a betrothal may be annulled.

350. Question 7.—For what reasons can a betrothal be annulled? Is imposence or immorality (bad chalani) a sufficient ground for breaking

off?

The following are recognized by all tribes as sufficient reasons for breaking off a betrothal—leprosy, impotence, madness, blindness, becoming of faqir, change of religion, immorality on the part of the girl. If the boy be of age he can refuse to complete the marriage;

but this would really be letting the girl's people off. If the boy or girl turn out to be of a low caste, it appears that the contract could be annulled. The inquiry on this point was not made from all tribes; but, if either party had made a misrepresentation on this subject, I do not think that proof of a custom would be necessary. All tribes are agreed that the above reasons are sufficient for breaking off a betrothal, and many instances of each cause were given. would not appear that the bodily infirmity must necessarily have developed after the betrothal, though I suppose that, if it were proved that the party had full knowledge of the infirmity to which it afterwards objected, the reason would not be considered sufficient by a Court of Law. The Jats appear to consider it the proper thing, in the case of the boy dying or becoming physically mulit, that the girl should, if possible, be married to his brother, i.e. inside the family; but there is nothing resembling a positive custom that could be entorced, only a feeling, which will be found to have its origin in most cases in the fact of money having been paid for the girl.

851. Question 8.—If the betrothal be annulled at the instance what may be recovered of one party is that party liable for the on account of breach of expenses, do, or not!

As pointed out before the advantages derived from the betrothal are all on the boy's side, and all tribes agree that an action for brench of the contract would lie as a matter of course where the girl's people broke off without sufficient cause. A few tribes or groups also recorded the view that damages would be recovered by the girl's family from the boy's for a breach without good reason; but instances to support this are not given, and it is said that the wirl's people would not think of suing. The question of damages is after all scarcely one to be decided by custom, which can define what constitutes a proper contract of betrothal, and the grounds on which such contract can be annulled by either party. Suits on the part of the girl's people are unknown; but that would not prevent a Court of Law from considering whether in any particular case they were entitled to damages.

The question (No. 6) in Vol. III of "Punjab Customary Law" as to the repayment of expenses in case of a breach for good reason was not asked; as this, too, is a point rather of positive law than of custom.

SECTION III.—MARRIAGE.

Degrees of relationship of relationship is neutringe lawful?

Amongst all the Hindu tribes (Jat, Snini, Lobána, Rájput) marriage with a girl belonging to the usual four gots is prohibited—(1) the boy's own, (2) his mother's, (3) his father's mother's, and (4) his mother's

modier's. Amongst Mahomedans a man may not marry within the degrees forbidden by Mahomedan law (fourteen in number), which I need not enumerate.

Physical defects annulling a marriage.

Physical defects annulling a marriage.

Physical defects annulling a marriage.

The physical defects annulling a marriage or lunacy, impotence or mutilation, sufficient causes?

Is any distinction made if the party seeking annulment knew of the defect at the time of marriage or if the defect have arisen subsequently?

The Rajputs (Hindu and Mahomedan) and Hindu Jats of the Garewal got say that a marriage cannot be annulled for any of these reasons; and no instances of annulment amongst them are forthcoming. It must be remembered that the indissoluble nature of the contract and the general strictness in the matter of marriage are what the Rajputs rely on to maintain their purity of descent; and the Garewals, too, being of the highest standing amongst Jats, and calling themselves Rajputs in origin, try to prevent any laxuess. Amongst the other tribes lanacy or idiotey, leprosy, mutilation are agreed to be good grounds for annulment; and instances are given to show this from all sections and localities. No other defects are admitted, although the word impotence appears in some of the answers, in mistake I should think, as a case of annulment for this cause has sever occurred as far as I can itearn. The Hindu Jate generally think, as might be expected, that the woman, when freed from her husband for any of the above causes, must continue in the family, and marry his brother, &c. by karewa; but I do not think that there is anything amounting to a custom that could be enforced on this point; or that the Courts would declare void her marriage to a stranger.

354. Question 11.—Between what tribes is marriage lawful,

Marriage out-ile of the tribe of religions? Is there any other cause invalidating a marriage?

All Hindus state that a man may marry a virgin of his own tribe (qaum) only; but in a karewa marriage many sections say that a widow of any other Hindu cribe may be taken. Hindu Rajputs and Mahomedan Rajputs, Dogars, Araiens say that any marriage out of the tribe is unlawful. The Awans, who go more by the Mahomedan law than any other tribe, and the Mahomedan Gujars record that one of them may marry any woman of their own religion. Many instances are given of Hindu Jats marrying widows of other Hindu tribes and the offspring being considered legitimate. This is another of the points on which the strictness of the old custom is not likely to withstand long the inreads made by the progress of society. I very much doubt if, even amongst the Rajputs, the offspring of a marriage, otherwise properly contracted, with a woman not belonging to the tribe would be considered by the Courts not cutitled to inherit. At

9 8 7 7 7 7

present the fear of exclusion from the brotherhood appears to be a sufficient deterrent from such unions, but it is improbable that this will retain its force for ever. However long the social punishment will continue to be a restraint amongst other tribes and sections of the Hindu Jats, I do not think that the Courts could even now declare such offspring to be illegitimate.

355. Question 12.—May a man marry his wife's sister during the lifetime of the former; and with what rela-

with whom marriage is tions of his wife is marriage unlawful?

A man may marry his wife's sister whether the former is alive or dead; but he may not marry his wife's (1) mother's sister, (2) father's sister, (3) sister's daughter, (4) brother's daughter, and, of course, wife's mother (all Hindus). the Mahomedan tribes are bound by the Mahomedan law on this point; and a man may not marry his wife's sister so loss sa the former is alive, nor may he marry any of her near relati But when the wife dies, the connection with the family is sur-sidered as broken; and a man may certainly marry, the sister, and apparently any of the other man relations.

356. Question 13 .- When a man has divorced

Re-marriage with

orced wife. his wife can he re-marry her?

If a Hindu has turned his wife out of doors for immorality, he may take her back as his wife, unless she has changed her religion; but there is no recognized form of divorce amongst Hindus.

The Mahomedan tribes are bound by the Mahomedan law, which the village Qázi interprets to them; but in the Mahemedan

Rajput tribe a divorced woman is never taken back.

Question 14.—Are the degrees pronibited by consanguinity prohibited also by fosterage?

A man may not marry his foster mother, or descended from her (all tribes). This is the only re-Fosterage. any one Question 15.- How many wives are striction.

358.

Number of wives.

Amongst Hindus there is no legal limit to the number of wives, except that it is said to be unlawful for Lobana to have more than four; and this is the number fixed by Mahomedan law for all Mahomedans. An ordinary Hindu Jat could not afford a second wife; and it is not usual to take one, unless a brother's widow, or where the man is pretty well off and has no male offspring by his first wife. Well-to-do Jats, Sardars and men of good family, very generally marry two or three wives.

359. Question 16 .- At what age does marris Age at which marri-

Marriage takes place at any age between 5 and 20; but there is no restriction to even these limits. In good Hindu families infant marriages are more common than amougst the ordinary agricultural population; but I have known cases of Rájputs keeping their daughters till even 30 years of ago because a suitable match could not be found. Where the girl has not attained the age of puberty she remains in her parent's house after marriage till she does so, and is then made over to her husband's people (mukláwa). Amongst ordinary agriculturists the girl is generally of a good age when married, and the mukláwa follows soon after marriage. The question was not raised of whether a mukláwa could be forced before the girl had attained the age of puberty; but I should think that a Court would refuse, on grounds of morality, to make her over to her husband before she had reached this.

Where consent is necessary to the validity of marriage—(1) when both parties are under age; (2) when either is of age? Van a woman contract a legal marriage without the consent of her quardian?

This question relates to first marriages only; and all tribes are agreed that a girl cannot contract a lawful marriage without the consent of her guardians, whether she be grown up or not. The only dissent was by one of the Awans, who gave instances in which grown-up girls had contracted marriages which were upheld by the Courts. Custom notwithstanding, I think that we are bound to come to this that a marriage with a grown-up girl, celebrated and consummated, must be recognized by the Courts. Where the boy is of age he can contract a valid marriage, as he is in a betretist, of his own second.

Ceremonics of marriage; which of them makes the union binding.

361. Question 18.—With what ceremonies is a marriage celebrated and what ceremony makes the union binding I

In paragraphs 78 and 79 I have given a brief account of the ceremonics observed by Hindus and Mahomedans, and I need not repeat it here. It is the phera, or walking together round the fire, while the Braimin repeats the marriage numbers that constitutes the cetual ceremony in a Hindu marriage (with a virgin), the other observances being merely part of the wedding celebration. Amongst Mahomedans the marriage is celebrated according to Mahomedan law by the priest; and the reading of the nikah, or service, makes the marriage binding. Of the whole question of karewa, or widow marriages, an account will be found further on in this section (Question 24).

362. Question 19.—Upon what grounds may a woman be divorced?

Is change of religion a sufficient reason? May a husband divorce his wife without assigning any cause?

A Hindu may turn his wife out of doors for immorality or change of religion, but for no other reason; and, if he does so, she ceases to be his wife. A Hindu marriage is nominally indissoluble, and there is,

therefore, no recognized form of divorce. Some of the Hindu Jats said that a man should have witnesses when he expels his wife. The Mahomedans follow the Mahomedan law on this point; and a woman may nominally be divorced without cause assigned, subject to the payment of the dower (mehr). Amongst Mahomedan Rájputs a woman divorced without cause is said to be entitled to maintenance; but no instances of this are given, and all tribes agree in reprobating such a divorce. Public opinion prevents the strict Mahomedan law from producing bardship in this respect.

363. Question 20.—What are the formalities attending divorce?

Formalities of divorce.

Is there any distinction between talka and khula?

Divorce is given by Mahomedans according to the Mahomedan law, and khula appears to be unknown amongst the common people. As to Hindus, the answer has been given under the preceding question.

Claim of the divorced wife any claim against her husband for maintenance?

If she be divorced for adultery?

The answer to this has already been given under No. 19. A Hinda woman, unless turned out for adultery or change of religion, would have a claim against her husband for maintenance, unless, of morne, she married some one else. Mahomedans appear to follow the Mahomedan law in this point; and the divorced woman is entitled to her dower. There is some disagreement as to whether the woman gets her dower when divorced for good reason; but I should think that the Mahomedan law would decide in this, as it does in other matters not connected with property in land. At all events there is nothing of the nature of a tribal or local custom on the point. If a dispute should arise it would be decided by reference to the village priest (mullah); or, if the parties resorted to the Civil Courts, according to recognized interpretation of the Mahomedan law.

Divorce by the wife. 365. Question 22.—On what grounds has the wife right to claim release from the marriage tie?

See question 10. Change of religion or the bodily infirmities or injuries mentioned there are good grounds; but the Rajputs say that a woman cannot be released for any reason.

366. Question 23.—What is dower and when does it become due?

Dower.

When the marriage is celebrated or on the death of the husband or on divorce? If the wife is divorced for adultery is she entitled to dower?

Dower (mehr) is known amongst the Mahomedans only. By the Law (Sharah) the amount of dower is Rs. 32-4; but a higher sum may be fixed. The recorded custom as to payment varies slightly in the various tribes; but as a fact the claim is almost invariably given ap

by the woman (hibadena). If a dispute arose, the parties would agree to abide by the Mahomedan law; but a dispute is likely to arise only in the event of a divorce, which is an unusual occurrence. It has generally been recorded that half of the dower (prompt) is due at the time of marriage, and the rest may be demanded at any time; but both are usually given up by the wife at the time of marriage. In this matter of dower also there is no local or tribal custom; nor, from the nature of the subject, was one to be expected.

Karewa or widow mar-

367. Question 24.—Describe the customs of karewa, chádar dálna, &c. What is the difference between such marriages and those of the ordinary kind?

The Hindus call the re-marriage of a widow karewa (the ceremony being chádar dálna); and it is practised by all the agricultural tribes except the Rájputs. There is, of course, no betrothal; and the ceremony is of the simplest description. The phera is not performed; but the páda, or priest, worships the chaunk as in a first marriage, the parties being seated side by side in the presence of the relations and neighbours. The priest makes the parties heads touch, ties some part of their clothes together by a knot, and places a chádar over them both. Sweets (qur, shakar, &c.) are distributed amongst those present in honour of the event.

I have already remarked that a betrothal is really a contract between two families; and that, when money is paid for a girl, she becomes in a way the property (haq) of the family into which she has been betrothed. Where she has been actually married there is a still strongor tooling that she belongs to the family of her lineband, whether the multiped or making over has actually taken place or not. A brother or a first count of the deceased would, if the girl were still in her parent's house, take the mukidea as a matter of course, for she has ceased to belong to her father's family. Where the girl is under age there would be no question of her consent, and she would probably be remarried by her parents to the person selected by the other family. Where she is of full age, all the Hindu tribes agree that she cannot be forced to marry her husband's brother or cousin, and has the option of remaining a widow in his family; but, if she marries any one, it should be the brother or, failing him, some other member of the family. It is considered a great dishonour, apart from the pecuniary loss, for Jat widow to marry into a strange family; but as to how far this can be said to be a custom which the Courts should enforce, it is not necessary for me to hazard an opinion. The tribal feeling is very strongly in favour of maintaining the power of the husband's family over the action of the widow in this matter; while our Courts could scarcely refuse to recognize as valid a marriage contracted by a widow who was not a miner, although it had not the sanction of her husband's relations.

Of Mahomedans, the Rajputs do not allow remarriage of a widow or divorced woman; and the man who contracts such a marriage

But the marriage, if celebrated according to would be put ont of caste. the Mahomedan service, would apparently be a perfectly valid one, for, as in the case of marriage out of the tribe, there are no consequences beyond the social punishment. Amongst all the other Mahomedan tribes widow marriages are practised, and the widow does not apparently require anyone's consent if she is of age. There is no distinction between the service on a first and a second marriage; but the bards, or bridal procession, and other celebrations are omitted in the latter. Amongst the Mahomedan Gujars if the husband has left a brother, and the widow marries some other person, the man she marries must pay to the first husband's family a fine of Rs. 150 to 200, or give a girl in marriage (nata). This custom has been recognized by the Courts. In the other Mahomedan tribes it is usual for the widow to marry a brother or near relation of the deceased husband; but there does not appear to be a positive custom on the point.

S68. Question 25.— Where the marriage ceremony has not been performed does the cohabitation of a man and woman constitute a marriage?

Amongst all Mahomedan tribes the nikah or marriage service is necessary for a legitimate marriage. Amongst the Hindus there is a daily increasing laxity in the matter of the widow marringe, as I have noticed in paragraph 78 of the Report; and I am inclined to think that in all the Hindu agricultural tribes (except the Rajputs) cohabitation, or 'iving together as man and wife without any ceremony, would constitute a legitimate marriage, so far as the issue of such a union is concerned. Such cohabitation is still openly retrobated, just as the taking of money for a girl is; and under pative rule the omission of the ceremony was (and still is, I believe) punished with a fine, perhaps in the interest of the priestly class; but very few of the tribes or gots would go the length of saying that the issue of such a union would be illegitimate. When the husband dies, the widow may take her place in the house of ene of the brothers (dewar or jet) as a wife of the brother without any ceremony; or, in the case of the marriage, but not the muklame having taken place, the brother may go and bring the widow home in the mame manner as the deceased would have done. The only section of the Hindu agriculturists who dissented from these conclusions were the Garewal Jats, two sets of Jats of miscellaneous gots in Samrala, and the Lobanas. Some others recorded that, unless in the case of the husband's brother, the ceremony was necessary. But I doubt if these statements would have any great effect than an expression of the feeling of the tribe or got. the case of the Garewil Jats and the Lobanas, living with a woman not united by the chadar daing ceremony would probably put the man out of caste (barádari se khárij); but I do not think that even here the status of the offspring would be affected by the omission of such a very loose ceremony. Among the Jats generally, if a man takes a woman to live with him as his wife, even if she is of another tribe, the offspring would apparently be legitimate; and this has been recognized by the Courts in many cases.

SECTION IV.-GUARDIANSHIP AND MINORITY.

369. Question 26.—Upon whom does the guardianship of a minor devolve where there are a brother and a mother? no is entitled to the And if there is neither, who has the right of

Who is entitled to the guardianship of a minor; the control of the land and the power of betrothal?

And if there is neither, we betrothing a female minor?

Amongst the Hindus

Amongst the Hindus the mother is in all cases (except if she be unchaste, some gots of

Jats have added) entitled to the guardianship of the person of the minor on the death of the father. If a family be joint, a brother or brothers of deceased living with the mother and the minor son, the former are entitled to the management of the minor's property; but, if the father was separated from his brothers (in property), the mother has the right of management also. If neither brother nor mother survive, the nearest agnate is the guardian. The mother cannot betroth a daughter without the consent of the nearest relations of the father; and some of the gots of Jats give the people who have the power of betrothal in this order—grandfather (deceased's father), brother, uncle, and after this the nearest of kin if related within seven generations. In this matter, however, there cannot be said to be any certainty. The relations of the father are most likely to agree amongst themselves in the matter; and the only dispute that could well arise is as to the mother's right to betroth the girl. On this point all History agree that she must have the sanction of her husband's relations. The hadronedan agricultural tribes follow the Hindus in this point. In one can between medical lates a betrocked contract made by the mother contract when he was not accepted by the rite, and the instance is a solitary one.

There are two points of importance in this matter of guardianship:
(1) the management of the property, i.e. the land, of the minor; (2) the right of betrothing the minor if a girl. The guardianship of the person of the minor is not considered of such consequence apart from these rights; and, as the betrothal of a boy is a liability, no claim could be made in respect of it. As to (1) there is the same strong feeling about the guardianship as there is about the right of the childless widow in the land (Questions 39—12); and in fact the position of the widow is virtually the same in both cases. The woman is a stranger to the family, belonging to a different got and village; and it is taken for granted (with very good reason) that she will be under the influence of her own relations; so that her guardianship or possession of the property means that of her brothers or other relations, and the introduction of strangers. Where the deceased was living apart from his brothers, &c., the right of the widow, whether she have children or not, cannot be denied; but there is the strongest feeling that she must be subject to the influence and control of her husband's agnates.

370. Question 27.—To what extent, under what conditions, Powers of the guardian and for what purposes, can guardians alienate the property of their wards by sale, gift or mortgage?

The right to alienate moveable property for the necessary expenses of the ward is admitted by all tribes, provided that the near aguates, on being asked to do so, refuse to supply the funds. In respect of immoveable property (that is land) the answers recorded do not agree; and show that, although the people are clear as to what they should like to have declared the rule, a regular custom cannot be said to be established. The answers are almost entirely directed against the power of the widow (for, if she is not the sole guardian, some of the agnates would have the control, and no one would be in a position to question his right); and they are due to the feeling, which I have referred to under the previous question, that she must naturally be more subject to the influence of her own kin than of her husband's relations. Most tribes admit the right of temporary alienation in order to raise money for m cessary expenses, if the near relation of the father refuse to meet them, the only objectors to this being a few of the Jata (of Samrala) and the Araiens of Ludhiana. The power of sale is admitted by the same tribe in parts of the District and denied by it in others; and instances of sale are not forthcoming, (only one is quoted). Necessaries are defined by the people as marriage and funeral expenses, debts of the father, payment of Government revenue, suitable maintenance of the minor.

On the whole, I think that the custom might be formulated as follows: That the father's relations should provide the funds for the necessary expenses of the minor, but, on their refusal or neglect to do so, the guardian has the power of absolutely alienating moveable property, and of temporarily alienating immoveable in order to raise enough money for this purpose. In the case (which may be considered almost impossible) of the gnardian not being able to raise funds on the mortgage of the land, he would probably have the right to sell the whole or a portion of it. What the people desire to guard against is almost invariably a collusive alienation by the widow to some of her own people; and the strongest evidence should, I think, be required by a Court (1) of the necessity of the expenses; (2) of the refusal of the father's relations to supply the funds; and (8) of the bona fides of the guardian, which would be evidenced by the actual receipt of the money for the benefit of the minor. Further, as money can always be raised on mortgage, necessity for a permanent alienation could scarcely be proved.

who is entitled to the custody of a married female whose father and hysband are alive?

Under the head of marriage reference has been made to the muklaus, or making over of the girl, which usually takes place when she has attained the age of puberty; or, it she is of that age when married, within a few months of the marriage. As long as the girl remains in her parent's house, the guardian is the person who would be entitled to the guardianchip if she were not married. When she is in her husband's house, he is the guardian, or his parents, &c., if he is a minor himself.

372. Question 29.—If a widow, being the guardian of a minor child, remarry, will her guardianship cease? Will it revive on her becoming a widow Effect of re-marriage of a widow who is guardian. again !

It she marry in her first husband's family (a brother, consin, &c.) her right to guardianship remains; but she loses it altogether if she marries a stranger, and it cannot revise. If the child is an infant in arms, she retains it till it is able to leave her (all tribes).

373. Question 30.-Is a minor, whose father is dead, and Liability of a minor who has inherited his father's property, liable for his father's debts.

He is liable to the extent of the property inherited and no further (all tribes). This question and several others given in Vol. III of " Punjab Customary Law" which I have omitted, are on nantters decided by positive law rather than by custom. For instance, I do not think that any Court would maintain a custom declared by a tribe to the effect that the heir could take all his father's property and repudiate his father's debts.

374. Question 31.-Is a woman whether minor or not, always Is a woman always under quardianship? Upon whom does the guarunder tutolage? dianship of (1) an unmarried, (2) a married female, mooserively devolve?

The answer to this has already been given in neveral places. A woman is always under guardianship-if married, of her husband; if unmarried, of ber parents, or of her natural guardians if she have no parents.

SECTION V. -SUCCESSION. MALE LINEAL DESCENDANTS.

375. Quartion 32. - If a man die bereing a widow or widows, son or sous, daughter or developes, brothers or The other of succesother relatives, upon whom will the valueitance sion where there are sons and widows. devolve?

The heirs to the property of the deceased are his male lineal descendants. If a man die leaving sons (or their sons), and widows, a sonless widow will take (a widow's right in) a share equal to that of each of the sons, and the widow with sons will live with them, no separate share being assigned to her. Thus a man leaves a widow with three soms and another with no son; the latter will have a life interest in one-fourth of the property, and the former will depend for maintenance on her sons. But, where the custom of chunda vand is observed, the property is divided into as many shares as there are widows, and each widow or her sons get one share. The Hindu Jats of Jagraon, the Awans and Hindu Rajputs do not allow the childless widow more than maintenance, where there are sons of another wife. Daughters are entitled only to maintenance, and have no

status as heirs. In paragraph 341 I have already remarked how completely the Mahomedan law has been an erseded in the matter of succession. There is really no difference between the customs of Hindus and of Mahomedans on most points.

Question 33.—If there be more sons than one will they take equal shares? If not, upon what principle Property how shared are the shares regulated? between sons; uterine descent (pagrand and

(I) is any regard had to uterine descent I

(11) to the easte or tribe of the mother !

(III) to the age of the sons?

chunda vand.)

(I).—The almost universal custom is to neglect uterine descent, and that each son (or his representatives) should take an equal share, that is the paguand custom prevails. The rule of chunda rand, under which the property was divided according to the number of wives, the descendants of each wife taking one share, is clearly a barbarous and unjust one, and is fast disappearing, the common sense of the people having declared against it. In early times, when hand was pleutiful and the paternal power was in full force, snok a distribution was not likely to meet with much opposition; but were with the growing scarolty of land the right of every sea to an squal share in his father's property is insisted on. This was the way in which most of the representatives of the tribes and gots put the matter to me when questioned. Even where cases were quoted of chunda rand succession, these were declared to be instances of an extinct and not of a living custom. Some whole villages of most tribes still declared for chands and; and their statements have been thus recorded. It is remarkable that on this point the representatives of each village agreed amongst themselves on one or other of the customs, and there was no dispute inside of any tillage. The custom of chanda rand can searcely be said to be such a bad one that a Court of Law ought to reject it; but it may, I think, be held to be primal facie opposed to justice and equity. There is such a strong presumption in favor of the equal right of all a man's sons in his property. that the fullest evidence should be required to establish the contrary; and this is the view that the people themselves take.

(II) and (III).—No distinction is made on account of the tribe

or caste of the mother, or of the age of the sons.

317. Question 34.—Can a father in his lifetime nominate a particular son as "laig" beta, and would such a son No custom of preget a larger share than his brothers after the death ferring one con to the of the father? others.

A father can in his lifetime give one of his sons a larger share of his property than the others; but such an arrangement has no effect after the death of the father, and all sons are entitled to share alike.

878. Question 35. - When an estate has Property acquired by sons in a joint family. been held jointly by father and some, and one of the sons has acquired property, is such property excluded from parti-

tion on the death of the father?

If the son have acquired separate property by gift or will, or from his wife's relations, such property is exempted from partition after the father's death, and remains the special property of that son. The dowry (dahez or jahez) received with a wife is also exempted. This may be taken as the general custom; but the Hindu Rájputs (Samrála) say that no property, and the Dháliwál Jats (Ludhiána), that only property received from the wife's parents is excluded from partition.

RIGHT OF REPRESENTATION.

Question 36 .- Where a deceased leaves sons and also sons of 379. The right of represent. deceased sons, are the latter entitled to a share ation in the case of sons as well as the former? and grandsons.

All are entitled to participate, and sons do not exclude sous of deceased sons.

380. Question 37.—Where a deceased leaves sons and also sons The succession in such of deceased sons, or only sons of deceased sons, do the grandsons divide equally, or are cases is per stirpes not per father would have received if he had been alive?

The division is per stirpes and not per capita, the property being and into as many shares as there were sons, and each son, or the

381. Question 38. When there are no male lineal descendants (sons, grandsons or great grandsons), Representation in the and brothers and nephews succeed, do they take their shares in the same manner, or case of collaterals. how?

As above, the right of representation is fully recognized. Thus, if there are brothers and the sons of brothers, the number of shares corresponds to the number of brothers alive, or who have left male lineal descendants; and each brother and the lineal representatives of such brother get a share.

The result of these answers (36-38) is that the right of representation is recognized without any exception; and that the inheri-

tance la per stirpes.

WIDOWS:

29.—If a man die leaving a widow and a Question daughter or daughters, brother or brothers' Succession of the widow descendants, uncles or their descendants, &c., on failure of male issue. but no male lineal descendants, upon whom will the inheritance devolve?

Where the deceased has left no male lineal descendants the widew has a right in his property superior to that of daughters (or their children) and collaterals. Most tribes say that a son's widow (nuh) or widows take an equal share with those of the deceased, the exceptions being that amongst the Araiens of Ludhiana and the Dogars the deceased's widow is said to exclude the widow of the son, who, however, comes in after her. The Hindu Rajputs (Samrala) also have recorded that the mother of the deceased has first right; and instances are given in other tribes where the mother has succeeded along with the widow; but this statement is merely due to a confusion of terms, and what is meant is the same custom as above—that, when there is a widow of a son who predeceased his father, the mother of that son (that is the widow of the person whose property is in question) excludes the san's widow. Where the father has died before the son, the property has passed to the latter; and according to the answers to the previous questions the mother could have no rights; while on the son's death his widow would succeed. It is the exception for the widow of a predeceased son to share with her husband's mother, the general rule being that the latter excludes her.

The right of the widow to succeed to ber husband's estate is a custom which may be said to be attached to the soil, and to supersele all law; and even the Awa's, who are the strictest observers of the Sharah, make no attempt to deny it. It will be seen that it is only to property in land that the agricultural tribes attach much importance, and the life interest of the willow in her husband's holding or share is most unwillingly admitted by the agnates, and her power over it strictly controlled. In this, as in other matters of succession to land, religion makes no difference, a man being a zamindár first and

an observer of the Sharah or Shastra after.

The nature of the interest taken by the widow.

What is the nature of the widow.

What is the nature of the widow.

where she succeeds ! What rights of alienation has she!—

(i.) Under what special circumstances,

or for what special purposes can she alienate!

(ii.) Is any distinction made in this matter between moveable and immoveable, ancestral and acquired property, or in respect of alienation to the kindred of the deceased?

(i.) The widow has a life interest in her husband's estate, and she has no power of alienation except for proved and special necessity, such as payment of Government revenue, debts of deceased, marriage of daughter, or any other special purpose, and if the collaterals of deceased

should have refused to provide the money.

(ii.) The collaterals have no power to interfere in the disposal of moveable property; but, as they have reversionary rights in all immoveable property, they may interfere if the wellow attempts to do anything that would injure these. The representatives of one got of Hindu Jats say that a widow may make a gift (pun) of a small area of land (one or two bigahs kacha) to the Brahmans: but this need scarcely have been recorded, as no one would be likely to try to set

aside such a disposition once effected. The moveable property of the deceased is not, as I have observed, considered as of much importance; and the widow has apparently an absolute right of disposing of it. As a result of the increasing scarcity of land, and its transferability, which is fostered by our system, the idea is gaining strength in the agricultural mind that even a full proprietor of inherited land has but a limited interest in it; and it is natural that the much inferior right of the widow should be regarded with great jealousy.

No distinction between joint widows on account of family, &c.

384. Onestion 41.—If there be several widows, do they take in equal shares? Is any distinction made in respect of the rights of widows who are not of the same tribe or family

as the deceased?

All widows share alike except amongst the Garowal Jats, who say that a widov who is not a Jatni would be entitled to maintenance only; but this par would scarcely admit that such woman could legally be the wife of a Garowal.

The effects of an descrity or remarriage on the right of the widow.

355. Question 42.—What is the effect of unchistity or of re-marriage on the right of the widow?

All tribes agree that unchastity and re-marriage (whether in the family or to a stranger apparently) equally destroy the right of the widow over her husband's estate; but some say that mere unchastity has not this effect, if the woman does not actually leave her husband's home (Lobána, Baini, Mahomedan Jats, and some of the Hindu Jats of Samrála and the Hindu Jats of pargana Ghungrána). I doubt if the Courts would ever recognize mere unchastity, of which sufficient evidence would always be difficult to obtain, as forfeiting the rights of the widow; and there certainly is no established custom on the point, nor is it likely to be raise! Re-marriage to a stranger would in all cases. I think, deprive the widow of her right; and so would a union with a member of her decease! husban t's family.

DAUGHTERS.

386. Question 43.—Under what circumstances can desighters inherit? If there are sons, widows or near which daughters can inherit.

Gircumstances under collaterals, do they exclude the daughter? If the collaterals exclude her, is there any fixed limit of relationship within which such near

kindred must stand?

If there is male lineal issue a daughter cannot generally succeed; and a widow also excludes her. An unmarried daughter is entitled to maintenance from her father's property, and he may provide for her out of it in his life-time. All the Mahomelan Rajputs, however, agree that, if there he a daughter who has taken a vow to remain single, she takes a

son's share, or, if there be no male lineal descendants, she succeeds to the whole estate; but the right ceases and the property returns to the heirs of deceased on her marriage or death. Many instances are given amongst the Maho, nedan Rájputs of all three Tahsils in which a daughter has succeeded in this manner; and there can be no doubt about the custom. Where there are a widow and a virgin daughter, I think that the widow would succeed first; but the question was not put, and the case is not likely to arise.

Most of the Hindu Jata will admit the right of the daughter, virgin or married, to succeed under no Hiwlu Jate; and other eiremastances, however far back it is tocessary to go in order to find a collateral relation of the decoased. In fact it is said that, if there is any one in the Thula or Patti even, she would not succeed, as such a person would be presumed to be descended from the same ancestor as deceased. other Hindu tribes follow the Jats in this matter, and so do the Araisus, except in Jagraon talisil. The Maliomedan Juts, Mahemedan Rajputa and the Hindu Jata of one group in Ludhiana taleil say that, if there is no male collateral related through the great-great-grandfather (nakardadu), the daughter, married or virgin, succeeds. Awans, Gujars, Lobanas and Dogars say that, if a married daughter have lived with her father from the day of marriage, never laving left his house, she succeeds on failure of male lineal descendants, and her children after her apparently.

Rights of unmarried daughters are of a narried daughters are of a narried daughter white with the father egice-ground.

387. Question 14.—(i) Under what circular daughters entitled to unintendence but father give grown.

(ii) What is the effect of macronic or resilines in a strange village

upon the right of the daughter to inherit or be maintained?

(iii). If a married daughter and her husband lice with the father till his decease can the daughter inherit?

(i & ii). An unmarried daughter is entitled till her marriage to maintenance from the estate of her deceased father; and, ifs there be no male lineal descendants, she will retain possession of the whole estate until her marriage, when it will go to the collaterals. A widow daughter, if she lives in her father's village and her husband's property is not sufficient for her support, would be entitled to maintenance from her father's estate. Under the circumstances of (ii) the daughter and her husband have no rights over the immoveable property of the father, except in the case of the four tribes mentioned at the conclusion of the last paragraph; but they would generally be entitled to retain possession of moveable property.

The answers to these two last questions show that three Mahomedan tribes (Awan, Gujar and Dogar) and the flindu Lobanas recognize in a way the custom of char-facaie; but they say that it is the daughter that succeeds (as she does if there are no male lineal descendants) and not her husband. However, her children appear to get the property after her, and not the collaterals of her husband. (Also

see under Question 71 as to ghar-javair.) No other tribe admits the right of the daughter or her husband to succeed to immoveable property, if there are collaterals within a recognizable degree of relationship.

Nature of the daughter's of the daughter's interest in property that she inherits? Define her rights of alienation by

sale, gift, mortgage.

The answers to this question by the four tribes, who admit the right of the daughter living with her father, are not very clear. They say (except the Lobanus) that she has the same right as the widow, and that she is subject to the control of her father's relatives. This probably is the case when she has no children; but, if she has sons, they would succeed (there are many instances of their being in possession now), and the property would be permanently alienated from the father's family. The Lobanas are consistent, and say that the daughter is the absolute proprietor of land inherited in this way. The other tribes, of course, admit no right of the daughter, except that some do in the case of there being no collaterals within a long distance.

889. Question 46 (a). If there are sons of deceased daughters, do they succeed and how do they divide? According to the number of daughter's sons or according to the number of daughters (per stirpes or per capita)?

(b). If the daughter die without male issue, who succeeds? her father's kin or her husband's?

Where the dang'tter succeeds under the circumstances of Questions 43 and 44 (in four tribes), her sons and grandsons would succeed her; but, if she die without male issue, the property would apparently return to her father's relations. As only one daughter would remain with her father and inherit, the question of representation does not ative.

PARENTS.

390. Question 47.—If a man dies without male lineal de-Succession of parents. scendants, and leaving no widow, daughter or descendants through a daughter, who is

A son could only under exceptional circumstances, e.g., by gift, or where his father had separated him off a share in the family estate, be in possession of property during the lifetime of his father; and, if he dies, the father would have the first right, and after him the mother. Then come the brothers and their male lineal descendants, and the other collaterals in order of relationship.

891. Question 48.—When the estate devolves on the mother of the deceased, what is the nature of the inter-taken by a mother.

or her own succeed?

When the estate devolves on the mother of the inter-taken by a mother.

of alienation? On her death do her son's kin

The mother has exactly the same rights as the widow (Question No. 40); and on her death her son's kin succeed, her own kin having no rights in respect of such property.

BROTHERS.

392. Question 49.—(1) When brothers succeed is any regard paid to uterine descent?

Brothers: uterine and (ii) Is any distinction made between associated.

ciated and unassociated brothers?

(iii) Between brothers of the full and of the half blood?

Where the custom of succession is pag vand not cleaned vand (see Question 38) no distinction is made between the full and the half blood, nor does it make any difference whether the brothers are associated or unassociated. It is the natural result of the custom of chanda vand that each mother's share in the property should remain with her children.

Question 50.—When a man dies, leaving associated and naassociated is others, who are cutified to surecel! Are the associated broth is entitled to exclude those unassociated in respect of property acquired by the decressed or his arcstral property?

All brothers are equally entitled to succeed to all property; but the Hindu Rájputs say that the associated brother gets all the moveable property of the deceased.

Representation of brothers, do their sons succeed?

The right of representation is, as in the case of son's sons, 'filly recognized; and brother's sons take the share that their father's would be entitled to.

SISTERS AND THEIR ISSUE.

Succession of sisters and their issue.

394. Question 52.—Does the property ever devolve on sisters or upon their sons?

Most tribes agree that the sister and her off-pring cannot succeed under any circumstances, and the Hindu Juts are particularly decided on this point; but the Mahomedan Juts of Ludhiána, Mahomedan Rájputs of Samrála, Dogars and one or two others say that they come in if there are no collaterals descended from the nakardide or great-great-graudfather, and no daughter or her male issue; and

one or two instances are given of their succession under these circumstances. But it is probable that there was no one near enough to raise a dispute in the cases quoted; and I should think that sisters and their children would always be excluded by any one who could prove his relationship to the deceased. This exclusion is more complete than in the case of daughters.

HUSBAND.

395. Question 53.—When a woman dies holding property in Succession of the huse her own right is her husband entitled to band.

All tribes agree that the husband succeeds to moveable property of the wife; but, in the case of immoveable property which has come from her own relations, most of them say that, if she leave male issue, they exclude the husband; and if she do not; he succeeds, but only to a life interest, the property reverting to her own kin on his death.

THE STEPSON.

396. Question 54.—When a widow marries having a son by her The stepson (picklag.) former marriage (picklay), does such son inherit from (i) his natural father, (ii) his step-father? If from his step-father, is there any difference between his share and those of his step-father's own sons?

Such a son (pichlag) succeeds to the property of his natural father; and has no claim to that of his step-father (all tribes).

Question 55.—(i) If the step-son he born after the second marriage of his mother, does this make any difference? (ii) If the step-father testow a share on him in his life time?

If the widow be pregnant by her first husband at the time of her second marriage, and a son be born, the son is entitled to inherit from the first husband, and has no claim on the property of the second husband (all Hindu tribes, except the Lobanas and the Hindu Jats of tahsil Samrála, who say that such a son born after the second marriage inherits equally with the sons of the woman by her second husband, being apparently treated as issue of the second union). The question is rather a fine one, and not likely to arise in practice. There is a tendency to consider a child born after the second marriage as the issue of it; and the only circumstances under which doubts would be raised are, where the birth took place two or three months after the marriage, not a likely occurrence. The right of the step-father to bestow by gift a portion of his property on his step-son is defined under Question 87. Amongst Mahomedans, however, marriage with a pregnant woman

is illegal; and, if it should take place, the son born after marriage would succeed to his natural father. Amongst Rajputs widow marriage is unknown, and the question does not arise.

Question 56.—Is a step-son (picklag) entitled to maintenance from his step-father; and, if so, up to what age?

If the step-son live and work with his step-father, he is entitled to maintenance till be grows up (all tribes).

ASCETIC.

Question 57.—If a person voluntarily retires from the world and becomes an ascetic (faqir) what is the effect on: (i) His right to retain his own property?

Upon whem will devolve property which he would have succeed to but for his retiring from the world?

This question of the exect of becoming an ascetic is a vexed one. Many of the tribes and gots record that a man loses all claim to retain his own property and to succeed to other property by becoming a finite; while others say that he retains all rights. Of the Hindu Jats some groups give one answer and some another. The truth appears to be that a man may take a semi-religious character, and go about his affairs as usual. It is a very common thing for a Hindu Jat to assume the dress and habits of a "Sidly," still retaining possession of his land; and he may at any time return to ordinary life. So too with Mahomedans, and numerous insuraces are quoted of men of all tribes who, though known as jugirs, are still in possession of all their property. For a man to be a true ascetic, it is necessary that he should have abandoned the world; and, as long as he retains property of his own, he cannot be said to have done this. It would be the best evidence against any one being an ascetio that he was still an owner of land. A man could not, then, be deprived of his property on the grounds of asceticism, nor could be be excluded from inheritance if he still retained and managed his own property. Even where he has actually given up his land on assuming the character of an ascetic, it is still apparently open to him to come back; and most tribes say that he may do so within the period of limitation. The Courts would probably take this same view. I'n ler certain circumstances it would be a fair inference that there lad been a complete abandonment of the world, e.g., when a man had succeeded to the graddi and become the head of a religious institution (dharmsála, &c.). What all tribes are careful to provide against is the alienation by a man who has turned use the of his land in favor of the institution which he has joined, and the succession to it of his spiritual, to the detriment of the rights of his natural relations; and on this point there is perfect agreement. A man's natural heirs, and not his spiritual associates or disciples, are entitled to succeed to his land; and an alienation by an ascetic which would interfere with the rights of the former would be resisted.

SECTION VI.—ADOPTION. WHO MAY ADOPT.

Under what circumstances may adoption take place: adoption of the daughter's son. 398. Question 58.—Is it necessary that the person adopting should have no son, grandson or great-grandson! Is a daughter's son a bar to the right of adoption?

The Rajputs, Hindu and Mahomedan, say that adoption is unknown in their tribe; and cases are quoted where an adoption has been alleged and set aside by the Courts. All other tribes are agreed that, if there is a male lineal descendant, there can be no adoption of any one.

*As to the right of the collaterals to contest the adoption of a daughter's son there is not the same agreement; but there is the strongest feeling amongst the members of all tribes and sections against such an interference with the ordinary course of devolution of property. Any disturbance of the natural order of succession to land is seen to be the cause of endless strile and dissension; and, if the people had the power of legislating for themselves in the matter, they would undoubtedly declare against anything except a very limited right of adoption. When land was not so valuable, because there was plenty of it and also because the burdens attaching to it were so onerous that preprietary rights might almost be said not to exist, the collaterals did not interfere with the right of a man to call in his daughter's son; or any other relation to help him in fulfilling the duties to the State which the possession of land antailed on him. In fact they were probably rather glad in most cases to have such assistance. But with the increasing value of the proprietary rights in land which our fixed assessment and the attenuation of properties have created, the force of tribal opinion has, as I have remarked in the previous section, become more and more strongly pronounced in favor of the idea that a man has only a life interest in his land, and that his natural heirs have reversionary rights which he cannot alienate. These rights we recognize to some extent in the law of pre-emption; but tribal opinion goes very much farther. The questions of adoption and of gitts appear to me good illustrations of the danger, of which I have spoken in the introductory remarks, of allowing custom to crystallize before it is fully developed. Numberless instances will be found in the early venue of our rule in which a daughter's son was brought in by a disidiosa proprietor, and succeeded without any opposition on the part of the colleterale, who had probably no desire to add to the land that they already held; but, on the force of these instances, to declare and perpetuate in the present state of society a custom to this effect would be to make no allowance for the great change which has taken place

^{*} Note:—The following remarks are on the general question of adoption, and more particularly on the power of adopting a daughter's or sixter's son. They would, perhaps, have been more appropriate under pars. 404. A daughter's son could never be a bar to adopt, in.

in the nature of property in land. Besides this, it should be borne in mind that, for every proprietor who would desire to adopt a daughter's son, there are hundreds who have refrained from doing so under similar circumstances; and, if it were put to the vote of the agricultural population as to whether the right of adoption of a daughter's son should be allowed, scarcely any one would declare for such a rule.

It is, of course, difficult for a Court of Law with the accepted definition of a custom as founded on instances to give a decision which would meet with the approval of the agricultural community; but where, as on this point, public feeling is so strongly opposed to what has been held to be the custom in certain cases—and the instances and decisions of the Courts are repudiated by the people with almost perfect unanimity, as not really expressing what they are prepared to accept as the custom—there should at least be a very strong presumption against the acting aside of the ordinary rules of inheritance; and the most complete proof should be required from the person wishing to do so. For every instance of the succession of a daughter's som not being ephosod, how many instances are there in which the collaterals succeeded as a matter of course, there being no attempt to bring in the daughter's son?

What the people do recognize without any hesitation is the power of the childess owner of land to choose one from a set of heirs equally entitled to succeed him. Thus a man without male lineal descendants, but with three or for nephews, may take one of them as his son; and such action would never be called in question. His right to provide some one who will take the place of a son and look after him in his old age is willingly admitted; but he must take one of the natural heirs, and he must not under any circumstances bring in a stranger, as his daughter's or sister's son would be, that is a person belonging to a different got. He must not, moreover, prefer a distant to a mear relation. I have written at some length on this point, because it is important that the true state of feeling of the agricultural class in respect of the matters of adoption, gifts, &c., should be appreciately inquiries is likely to arise. Opinions seked the provided as a particular case are not likely not be reliable.

Adoption of a son where the natural heirs are disqualified.

399. Question 59.—If a man has male issue, but for some cause such issue cannot perform his funeral rites, can he adopt a son?

No instance is known to have occurred of a man, whose son or grandson, &c., was disqualified by change of religion or other such cause, adopting another son. Some of the Hindu Jats say that adoption would be allowable under the circumstances, while others say that there is no necessity for adoption, as the collaterals would perform the obsequies. This is quite separate, of course, from the question of exclusion from the succession for such causes as change of religion leprosy, &c., which, I may observe, has not found a place in the test

367

Adoption of two sons: 400. Question 60.—Can a man, who has already adopted a son, adopt another during the lifetime of the first?

A second could not be adopted (all tribes).

Question 61.—Can the following persons adopt:—(1) a backelor; (2) blind, impotent, lame; (3) widower; (4) an ascetic who has renounced the world?

(1), (2), (3), can adopt; and (4) cannot (all tribes). Instances of (1), (2), (3) are given. As to (4), a true ascetic is of course meant in the answer (see the remarks under Question 57.)

401. Question 62.—Can a woman adopt? Is it necessary that a widow should have the permission, written or verbal, of her husband for an adoption, or the consent of his kindred?

There cannot be said to be a custom established on this point. Most of the gots of Hindu Jats say that a widow can adopt under no circonnstances, even with the sanction of her husband; others, that she can with such sanction in this case she would, of course, only have the same rights as her lorsband would have had); while other tribes and gots again (all Mahomedans except Rajputs and the Hinda Sainis) my that the consent of the collaterals is necessary (but if they comsent there would be no one to dispute the adoption). In the sees that came into the Courts (Oldliwil Jate of Jagriou that!) air adoption by a widow was set saids; while an instance is given amongst the Maliomedan. Gujars of Jagraon, in which a widow adopted on the written permission of her husband. There was no dispute in this latter case. In the absence of instances in which a widow has adopted, I should think that the Courts ought to presume that no custom exists, and that the right is not recognized, that is, there is negative proof of the absence of the custom; and it is certainly not necessary to refer to the Hindu or Mahomedan law for the decision of the question.

Question 63 .- In the event of the death of a son adopted by a

widow, can she adopt another!

No such case ever arose; and those Mahomedans and the Hindu Sainis who say that a widow may adopt with the sanction of her husband's collaterals, also record that she may do so a second time. As stated under 58, there is no custom of adoption recognized amongst Rajputs.

WHO MAY BE ADOPTED.

Who may be given in adoption his (1) only son; (2) eldest son; (3) brother?

Here, again, there is no distinct custom. All tribes agree that an eldest son may be given in adoption; but as to (1) and (3), the representatives of the same tribe from different parts of the District cannot

agree. However, the answers of those who say that an only son or a brother cannot be given in adoption show merely their opinions as to what should be done under imaginary circumstances. I do not think that an adoption would ever be disputed on either of these grounds; but it does not appear that such an adoption has ever taken place

Question 65.—Is it necessary that the adopted son should amongst the agriculturists. be under a certain age? If so up to what age

There is really no limit of age for adoption; and, although most of the tribes have recorded some such limit, these do not agree one with the other, and are merely expressions of opinion. There are many instances of adoption of grown-up men quoted in most tribes. An adoption would ordinarily be of a boy.

Question 66.—Is it necessary that the person adopted should be related to the person adopting? If so, what Degree of relationship be related to the person adopting? If so, what relatives may be adopted? and what relatives may be adopted? be continued anomal relatives may be adopted; and what relatives may be adopted; and what relatives have the preference? Is it necessary that the parties should be of the same tribe, on of the same got?

The Dogars are the only tribe who asserted that a man may adopt any one outside of his own tribe, without reference to relationship. The other tribes and gots restrict the choice of an adopted son to a man's heirs, the nearer excluding the more remote. Thus the person adopting may choose any one from amongst the lineal descenperson adopting may encode any the trem among the cannot adopt dants of his brothers; but in the presence of these he cannot adopt from descendants of his father's brothers, and so on. If there are no collaterals the following tribes say that (i) a daughter's son, and (ii) after him a sister's son, may be adopted—all Mahomedans (except, of course, Rajputs, amongst whom adoptions are unknown), Sainis and some of the Hindu Jats of Samrala. The degree of proximity, of the collaterals who would exclude the daughter's son, &c., is not mentioned; but a relation through the nakardada, or great-great-great-grandfather, would be within the recognizable degree. Most of the Hindu Jats Say that, if there are no near collaterals, a man must adopt one of his own got, and cannot take a daughter's or a sister's son.

Question 67.—Is there any rule prohibiting the adoption of the son of a woman whom the adopter could not have married, such

as his sister's or daughter's son?

No such rule is known.

FORMALITIES.

405. Question 68.—What formalities are

There are, as might be expected in an agricultural population Formalities necessary for composed of Hindus and Mahomedans, neither of whom pay much observance to their scriptural law, no special and elaborate formalities attending an adoption. The adopter usually calls the neighbours and his relations together, and distributes gur, saying that he has adopted (god-lia) so and so; or a deed of adoption may be written. It is recognized that there must be some such public notification of the fact of adoption; but this is all.

EFFECTS OF ADOPTION.

406. Question 69.—Is an adopted son entitled to succeed to his natural father in case of the latter having no lineal male issue? Succession of an adopted son to his natural father.

Mest tribes say that the adopted son loses all claim as the son of his natural father; but the following tribes and sub-divisions have recorded that, in the event of the natural father leaving no lineal male issue, the adopted son succeeds to his natural father in preference to collaterals: Hinda Jats of Kheri and Khannah ilágas, Lobánas and Mahomedan Jats of tabsil Samrála, Araiens in Ludhiána and Gujars in Jagraon. No instances are given on this point; and it may be accepted, I think, as the general custom, subject to proof a special custom in any tribe or locality, that the adopted son ceases to have any claim as a son on the estate of his natural father.

407. Question 70. - What rights has the adopted son to succeed to his adoptive father? And what is the effect if a son is subsequently born to his adoptive Succession to the adopt-Ive father. father?

The adopted son becomes to all effects and purposes the same as a natural son of his adoptive father, and takes an squar share with natural sons born after his adoption. I think that we may leave the natural sons and an adopted son in a case of there being several natural sons and an adopted son in a family where the custom of chunda vand is recognized till it arises.

GHAR JAWAIE.

Question 71.—Where a son-in-law, leaving his own family, takes up his residence with his father-in-law as ghar-javaie, what will be the effect on the rights of such son-in-law to inherit-(i) from son-in-law Associated (ghar-jamuie.)

See the remarks on Question 44. No tribe recognizes the right his father; (ii) from his futher-in-law? of the son-in-law under any circumstances; but the right of the daughter and her male issue to succeed is acknowledged by the two or three tribes mentioned there. There is no question of the man for-

feiting the right of succeeding to his natural father.

SECTION VII.—BASTARDY.

409. Question 72. - Where a marriage has taken place which becomes illegal on account of the parties being within prohibited degrees of relationship, or of change of religion, or of difference of caste, &c., will the offspring of such a union be considered legitimate or not? The issue of an unlawful marriage considered illegi-timate; claims of such issue; children of a karema marriage,

The Rajputs say that the issue of a marriage with a widow or divorced woman is illegitimate; and all other tribes, Hindu and Mahomedan, agree that, if the marriage turn out unlawful on account of relationship, caste, &c., the offspring is illegitimate. It is questionable, as I have observed (No. 24), how far a Court of Law would give effect to a custom of this nature, founded on caste prejudice, and protected only by a social punishment.

Question 73.—What are the rights of illegitimate children to inherit from their natural father?

They are excluded from inheritance (all tribes.)

Question 74.—Are illegitimate children, who do not inherit. entitled to maintenance?

They are probably entitled to maintenance during minority, though even this is denied in many places.

Question 75.—Arc the sons of a karewa marriage entitled to suffert equally with the offspring of an ordinary regular marriage?

Where the custom of horses is established, there is no distinction made between the offspring of this and of an ordinary first marriage; and all the children would share equally in the inheritance.

SECTION VIII.-WILLS AND LEGACIES.

Wills and lepseles unknown anones, the agricultural population.

410. Question 76.—Can a proprietor, his production directions, dispose of his producty after his death?

Wills and legacies are unknown, but the Mahomelan Jats and the Awans of tabiil Ludhiana say that a man may dispose of his moveable property by will. In no case can land be so disposed of nuless, of course, in the event of all the heirs agreeing to the disposal.

In the case of Partáb Singh v. Bishen Singh and others (Punjab Record, No. 81 of 1877) it is laid down by the Chief Court that the distinction between alienation by will and by a disposition inter vivos would not be appreciated by an agriculturist; but I respectfully venture to differ from this conclusion. I have endeavoured to show that the right of a proprietor in inherited land is considered as to a considerable extent limited; and that any attempt to interfere with the reversionary rights of the natural heirs is regarded with the greatest jealousy. A gift of land to take effect during the litetime of the donor would be, as a rule, at once contested; and the presumption against a disposition by way of will or legacy, that came to light after the death of the proprietor, would be ten times stronger. It is scarcely necessary, however, to discuss the matter further for, while the disposition of property by gift or by adoption is recognized and admitted with limitations by the land-owning tribes, wills are entirely unknown; and,

on the strength of a doubtful analogy, to create a rule recognizing them, as was done in the case referred to above, appears to me entirely opposed to the spirit of tribal custom. The distinction that an agriculturist would at once draw between a gift and a legacy is that in the case of the former the action of the donor is liable to be questioned at the time, and the dispute would be within the family, not between the heirs and strangers. How essential this difference is will be appreciated by any one acquainted with the constitution of native society.

Question 77 .- Where the power exists, is there any limit to it?

There is no power, and, therefore, no limit.

Question 78.—Can a legacy be left to one of the heirs without the consent of the others?

The consent of all the heirs would be necessary for a legacy.

Question 79 .- Does a widow, who succeeds to immoveable property

as legatee, take it in full ownership ?

It a widow succeed as legatee, which she could only do with the consent of the heirs, she would have a widow's interest, as defined under Question 40.

SECTION IX.-SPECIAL PROPERTY OF FEMALES.

411. Question 80.—Is there such a thing as the special property of females over which husband has no power? If so, who succeeds to Special property of females: succession to it.

it on the demise of woman?

There is no clear custom recognizing a special class of property as belonging to females, and over which a husband has no control. I do not think that cases of dispute between man and wife are likely to arise about the few articles of clothes, jewelry, &c., which are usually given with a woman as dowry. Some of the tribes say that the husband has full power over all moveable property, while some say that the wife has. The truth is probably that jewelry, articles of dress, &c., which a woman receives from her parents or relations, either at marriage or subsequently, would be considered as her personal property; while other sorts of movembles, such as cattle (a usual form of dowry where the wile's people are well off) would go into the common stock of the parties, and would be controlled by the husband. Where a woman gets immoveable property from her own people, some of the answers say that she holds it independently of her husband; but I doubt if this is possible. The husband would naturally manage land thus acquired, and anything like independence on the woman's part would clearly be against all native ideas on the subject. I have not asked any more questions under this section, because none of the points on which those given in the "Customary Law" seek to elicit information, can be said to have arisen as yet. The sense of the male agricultural population (of all native society, I may say) is strongly against anything that would tend to give the wife the power of acting apart from her husband; and there is certainly no necessity at present for protecting the special property of married women.

Under Questions 43-46 the circumstances under which daughters may succeed have been recorded, and the right of the hasband with regard to property inherited from the woman's father under Question 53. I need not repeat what will be found in my remarks on the answers to these questions. Also see questions 84 and 85.

SECTION X.-GIFT.

412. Question 81.—Are there any special rules relating to deathbed gifts? Can a man make a gift on his
tions and in charity, &c.

bed gifts? Can a man make a gift on his
death-bed to a relation, or in charity, or for
religion (khoraiot)? Can he do so of the
whole or only part of his property! If of part, what part? If some
heirs consent and others do not?

The answers to this question prove clearly that there is no custom on the points raised; but a desire was shown by the tribal representatives to lay down a rule according to what they thought fit and proper. Thus the Lobánas say that a gift by a man in good health may be valid; but a gift by a man on his death-bed is invalid. Some of the Jats say that a man may give one or two bigahs (kacha) to Brahmans on his death-bed; the Awans say that one-third, and the Gujars one-fourth of a man's immoveable property may be given for kharaiat, i.e., for a religious or charitable purpose. The fact is that death-bed gifts, like wills and legacies, are unknown; and this appears to me to be the best statement of tribal custom on the point that can be made. There being no custom, the power of making such gifts may be presumed not to exist. I do not think it possible that a boná fide gift in charity, or for a religious purpose, would be disputed.

Gitt of a share of joint property make a gift of his share without the consent of the others?

The fact of the property being joint could not prevent a person, who was otherwise entitled to dispose of it by gift, from doing so. The distinction is unknown to the agriculturists in this view.

414. Question 83.—If a gift of land be made to a person, who is not a member of the village community does the gift carry with it the right to share in the village common land or the miscellaneous village receipts?

If a small area is given, e.g., to a Brahman, no share in the shamilat goes with this; but, if the gift be of a certain share in the village, a right in the common property and to participate in the common receipts goes with it. The donee would take the place of the donor to the extent of the share gifted.

115. Question 84.—Can a father make a gift to his daughter by way of downy (jakez) of moveable or immoveable property, whether or not there be sons or near collaterals; or whether or not

they consent ?

He can give in dowry, without consulting any one, as much of his moveable property as he chooses, but cannot give immoveable property. Of course, if the next heirs are consenting, there would be no one to dispute a gift of land; but it is not the custom, except when the father is a man of great means or of very good family, to give immoveable property in dowry with a daughter.

Devolution of property
sequired in this way.

116 Question 85.—On whom will devolve
the inheritance of property given to a daughter
in downy (jakez)?

- first, and after him to the male heirs, in defent of whom it will go to the hashand's collaterals. In fact the jakes, if consisting of moveables, merges into the husband's property, as I have before explained (Question 80); and will not return to the woman's people. In the musual event of a woman getting immoveable property in dowry, it would devolve as explained in the answer to Question 53, at least such is the recorded statement of the tribes. I think, however, that this is very doubtful. Property coming to a woman is dowry would be transferred from one family to the other, and belong absolutely to that of the lusband according to native ideas. It is only in the case of property inherited by a daughter in her own right (Questions 43—46) that the family of her father could be held to retain any dormant rights in it.
 - 417. Question 86.—Who has the control and power of alienation of property given to a woman in dowry? Her has-band or herself?

See remarks under Question 80. I have anticipated there the answer that was given by all tribes, viz., that the husband has the power of management and alienation of all movemble property except, probably, the clothes and jewelry of the woman. A dispute on this point could scarcely arise.

Immoveable property is almost never given in dowry; but, if it were, the husband-would, according to the answers, not have the power of alienation; but, as under the last question, I doubt if the woman's relations could retain any rights in such land.

418. Question 87—Can a father make a gift of the whole or part of his property (i) moveable, (ii) immoveable, to his sister, or to their children, who can oppose such gifts?

ter's son, to his sister or her children, or to his son-in-law? If there are no lineal male descendants or near collaterals, does this make a difference? Whose consent for such a gift is necessary?

The right of a person to dispose by gift of his moveable property is recognized by all the agricultural tribes, and he can apparently give away the whole or any portion of it to any of the people mentioned in the question. As to immoveable property (or rather land), most tribes say that, to enable the proprietor to make a gift of any part of it to the relations mentioned in the question, he must obtain the consent of the heirs—the lineal male descendants, or, in default of them, the collaterals related through the great-grandfather (nakardáda). It is not said whether the gift could be made in the event of there being no one within this degree of relationship; but I conclude that a more distant relation could not object to a gift made to a daughter, sister, &c. Dogars say that a man may give to his daughter, sister, son-in-law or brother-in-law a share copial to that of a son, if he has male issue; otherwise he may give as much as he likes. The Awans and Gujars, who, with the Dogars, admit the right of a daughter to succeed, say that the stated make a gift to a daughter under the circumstances stated in the remarks on Question 44, i.e. where the married daughter has not left the house of her father. Some of the Hindu Jata say that a gift of land may be made to any of the persons mentioned, when there are no collaterals related through the nakarddda, and the others disallow such disposition under any circumstances. The Dhaliwals alone of the Jats say that, if there are no sons and grandsons, a man may give a portion of his property to his daughter's or sister's children. I am doubtful about this statement of a custom to the effect, although such gifts have taken place and been admitted.

119. Question 83.—What is the power of a proprietor to dispose by gift of property, moreal be a immovable, ancestral or acquired, to a person who is not a relation! In the consent of the sons or near relations necessary for such a gift? How does (i) the fact of there being no sons, (ii) the circumstance that the property is joint, affect such power?

All tribes, except the Awans, admit the absolute right of the proprietor to dispose of moveable property by gift as he chooses. The Awans do not recognize even this power. As to immoveable property all tribes deny the right of making a gift of it to a stranger, except a small area (one or two bights kacha) to Brahmans (Hindus), or in kharoias

i.e. for a holy or charitable purpose (Mahomedans.)

the work of revoking a 420. Question 89.—Under what circumgive it is to the school attack. It stances is a gift revocable? If possession have not been given or if the parties are relations?

There is no custom on the subject; but some of the tribes say that, if possession have not been transferred, a cold may be revoked. Until possession has been transferred, however, the gift would not be complete.

Question 90 .- If the dorar have a son subsequently born to

him can the gift be recoked?

This question is rather beyond the comprehension of the people, and a case in point has never ansen. The answers are, therefore,

speculative, and are generally to the effect that the gift cannot be revoked; but one or two tribes and gots say that it can be in whole or in part (one-latt.) I should think that, in the improbable event of a gift of land being followed by possession, and a son being then born, the donor could not revoke the gift if the transfer were clearly proved; but perhaps it would be possible to have it set aside on behalf of the son.

SECTION XI.—PARTITION.

421. Question 91.—When the father of a family is alive, whose Partition between the consent is necessary for the partition of a members of a family while joint holding? Under what circumstances can the father is alive.

partition take place? Is it necessary that the wife or wives of the proprietor should be past child-bearing?

During the lifetime of the father partition of a joint bolding can only take place with his consent. A father ordinarily divides his property amongst his sons only when there is no chance of his having more offspring; but, if a son be subsequently born, the partition would be revoked or altered with a view to provide a share for the new son (all tubes).

Question 92,-- Are the sons entitled to claim partition as a matter of right?

They are not entitled to claim partition as in the last (all tribes.)

Question 93.—Can a father exclude one or more sons from their shares, or otherwise make an unsqual division! If so, is any distinction made between moveable and immoveable property, ancestral

or acquired !

A father can make what distribution he chooses of his property amongst his sons; but this will hold good after his death only so far as it affects moveable property. A father cannot deprive a son of his right to the share in immoveable property to which he is entitled by the laws of inheritance; and the son can claim a redistribution after the death of his father (all tribes). The Mahomedan Rájputs, Gujars and Jats of Samrála say that a father may, according to Mahomedan law, disinherit ('dq) his son; but there is no recorded instance of this having been done. The only imaginable circumstances under which it could happen would be in the case of the son changing his religion.

Question 94.—When the proprietor makes a partition, are his wives, childless or with children, entitled to participate!

The proprietor may or may not give them a share, he has complete power; but a wife is entitled to maintenance, and cannot be deprived of this right.

Question 95.—How many shares can a father reserve for himself at partition?

He can reserve as much as he likes; but he usually reserves a share equal to that of a son.

Question 96.—What is the effect of the birth of a son after partition? Can the father revok: the partition? If the father have reserved a share for himself, will such share devolve exclusively on

the son born after partition?

The father can, under these circumstances, revoke the partition (see under 91) and make another for the benefit of the son. If a son be born after the death of the father, he would be entitled to take a share from his brothers. All the beirs have an equal right in the share reserved by the father for himself. If a son be born after partition, and succeed to the share reserved by his father, and this be smaller than those of his brothers, he could claim to have his share made up.

The general result of these answers is that the father may, during his lifetime, make what arrangement he chooses about his immoveable property (land); but he cannot do anything to affect the reversionary right which every son (or his representatives) has in such property; and an arrangement made by the father ceases to have effect on his On the one hand the paternal authority is supreme during the father's lifetime, and the sous cannot interfere with the exercise of it: but on the other hand the sons have dormant rights in the immercable property, and the father cannot set aside the ordinary laws of inheritance. Over moveable property the father has absolute power.

Partition on behalf of a widow, daughter, &c., succreding to an interest in

422. Question 97.—Can a widow claim partition (i) if she have sons; and (ii) if she have not? Can a daughter or sister, if un-

married, claim partition !

A widow who has no male offspring, and is, therefore, (see Question 39) entitled to a widow's interest, can claim partition of her share; while, if the widow has sons, she is dependent on them for maintenance. A daughter or sister cannot claim partition (all tribes). No case of a daughter or sister claiming partition has ever occurred as far I could discover, nor is one likely to occur, as these persons could only succeed under circumstances, which would leave no one against whom to claim partition, and the answer is a mero expression of tribal opinion as to what should be done under these most improbable circumstances.

Question 98.—If partition be made can a widow claim a share?

If so, what share, and on whom will it devolve after her douth?

The greater right includes the less, and, as the childless widow of a sharer can claim separation of her share (fast question), she can do so when a partition takes place on the motion of other sharers.

There is, a strong feeling, as might be expected, against the separate possession by the widow of her share, and several of the sets of representatives stated what they thought ought to be restrictions on the exercise of the right. The dispute that generally arises is where the widow of one brother claims separation of her share from the others, the holding having hitherto been a joint one; and it will usually be found that she states in her claim that her husband's heirs, who have possession of the joint property, refuse to maintain her. It will also be found as a rule that the claim is brought at the

instigation of her own relations, who wish to get the management of the had; and the opposition of the sharers is founded on this fact, and also on the unwillingness to allow the widow, who is herself considered to be family property, to get out of their power. Courts now admit the right of the widow to separate possession of her share, as the natural consequence of her being entitled to it, and the people themselves do not deny this right in the last resort; but they think that she ought to be content with maintenance if her husband's relations are prepared to offer it to her in good faith. It would be quite at variance with the feeling of the agricultural community to allow partition on the application of the widow as a matter of course. So far as there is a custom on the point, I should say that it would make it incumbent on the widow to prove that her husband's relations refused or neglected to support her. The land, it is felt, ought to be left in the possession of the husband's relations, and the widow allowed so much as will represent the proprietor's profit on her share, It is not too much to say that the husband's relations consider the land and the woman as good as gone from them for ever, when the Court has allowed partition of her share,

Disputes often arise where a widow with minor children claims partition against the uncles, and these same influences will be found at

work an both sides in, such cases.

Right of the son who remains associated with his father offer partion the right of successions to the which of the properly reserved by the father, or will the other after pertision.

The answer to this has already been given. It is a very common thing for a proprietor, where the conditions of the agriculture admit of it, to assign to each of his married sous a separate share of the ancestral holding; and to keep with bimself the younger sons, who have not yet been married. The son who has a wife cannot ordinarily remain in the same house with his father and brothers; and, unless the holding requires to be worked jointly, as it does in the highly irrigated pacts, this is often followed by a separation of the share of such son. But this, as explained mader Question 96, is only a temporary arrangement. With the increasing scarcity of land, too, such arrangements are becoming much less common than they were. The son or some who continued to reside with their father would keep the moveable property of the father on his death; but, if the father had retained more than the share to which the son or sons would be entitled by inheritance in the immoveable property, the other brothers who were living apart could claim a share in the excess, or a fresh partition.

424. Questions 100.—Will an acquisition made by a futher after Acquisitions by a taker partition devotes equally on all sons whether or after partition.

not one or more sons have remained associated with him? If the acquisition be made by the help of the associated son?

If the father have made the acquisition with his own (that is, the family) property, and it be immoveable property, all the sons are

entitled to participate in it, whether living with him or spart. If the associated son have acquired the property through his own exertions and from his own means, it is not liable to partition. The moreable property, as above, goes to the associated sons (all tribes).

Question 101.—If a son remain associated with his father and die childless, can the other brokhers claim a share in his property during the

Afetime of the father?

They cannot claim a shure during the lifetime of the father (all tribes).

PART II.-Local Custom.

- In the inquiry into Tribal Custom I have adhered as closely The nature of local cr. as possible to the plan of Part 1, Vol. 111, of agracian customs. Mr. Tupper's "Punjab Customary Law;" but in the matter of Local Custom complete discretion appears to be silowed to Settlement Officers as to the subjects and method of investi gation. and it is necessary that this should be so. The customes coming under this head have, as pointed out by Mr. Thapper, usually no compertion with the tribe or family, but are entirely the result of local-conditions. The term Unstome does not appear to me to be strictly applicable to them, as they are in a great measure matters determined by agreement; and it would be more proper to say that they are customs controlled by a preement. The most important part of them find their way into the Administration paper (wejib-ul-arz) of each village, which contains the agreements between the members of the village community as to the administration of village property This paper has an authority as part of the Sattlement and affairs. Record; and its provisions can be attered only in the same manner as other parts of such Record; but, although these provisious generally express the past custom in the matters to which they relate, they can be, and are, altered by the agreement of the parties. It is not to be expected that such matters as the dues paid to village artizans, the management and partition of the village common land, the rights of tenants should be decided by custom derived from a state of society which has passed away. These matters are really subjects of agreement; and the provisions concerning them are liable to alteration from time to time by fresh agreements between the parties.
- Genome relating to allow part of Local or Agrarian Custom on which vice and dilevies. part of Local or Agrarian Custom on which vice and dilevies. part of Local or Agrarian Custom on which vice and dilevies. inquiry has been made for a tract as a whole, and not for each village separately, is the collection of customs relating to land subject to the action of the river—Riveralle law. All other matters of inquiry suggested by Mr. Tupper will be found to fall under one or other of the heads prescribed for the rillage administration paper in the Rules under the Land Revenue Act; and it is much more convenient to have them there. There is a very considerable amount of divergence in the practice on many points between village and village; and a separate record of the customs and

agreements for each village is likely to be more reliable than a general statement for a collection of villages, because in the former the whole community of each village have an opportunity of expressing their views, while the latter is made out from the answers of a few representatives of each village.

In this second part, then, I will first give some account of the customary rules determining in each separate locality or tract questions that arise in connection with the action of the River; and after that of

the provisions of the village Administration papers.

A.—THE CUSTOMARY LAW OF ALLUVION AND DILUVION IN VILLAGES ALONG THE BANKS OF THE SATLEJ.

The river Satlej bounds the three tabells of the Ludhiáua district on the north, separating a small portion of Samrála from the Garhshankar tabell of Co-

Method of making the inquiry into the custom of alluvion and diluvion. of Samrála from the Garhshankar tabell of Coshiárpur, and the remainder of Samrála and the whole of the others from the Nawashahr, Phillour and Nakodar tabells of Jalandhar. No other

river touches the District. The inquiry as to the Riverain custom was made by Extra Assistant Settlement Officer, Ahmad Bakhsh, from the people of the villages on both sides of the River, assembled for the purpose of several places along its course.

for the enquiry the Ludhiana villages were divided inte five

groups-

(1) Those of Samrala opposite Garhishapkar.

(2) Those of Samrala opposite Nawashafir(Jalandhar.)
(3) The upper half of thethe villages of Ludhliua tahsil.

(4) The lower do. do.

(5) The villages of Jagraon tahsil.

At the attestation of the custom of (2) to (5) Mr. L. W. King, C.S., then on Settlement duty in Jalandhar, was present, and assisted.

Group (1) consists of only a few villages.

Nine simple questions on the lines of those in Mr. Tupper's Panjab Customary Law, Volume III, Part II, Sec. II, were framed and given to the Extra Assistant Settlement Officer; and these, with an abstract of the answers to them, will now be detailed.

I.—Custom between villages on opposite sides of the River.

428. Question 1.—When the land of a village goes by dilurion (abrasion), and land is recovered on the opposite side of the stream, adjoining another village, will such land coming by alluvion, separation, &c.

1.—When the land of a village goes by dilurion (abrasion), and land is recovered on the opposite side to with village, will such land belong to the original village, or to the village on the opposite side to which it has come by accretion, separation, &c.

3. **The content of the land of a village goes by dilurion (abrasion), and land is recovered on the opposite side of the stream, adjoining another village, will such land belong to the original village, or to the village on the opposite side to which it has come by accretion? Is any distinction made between land that is come of the stream, adjoining another village, will such land belong to the original village, or to the village on the opposite side to which it has come by accretion? Is any distinction made between land that is come of the stream, adjoining another village, will such land belong to the original village, or to the village on the opposite side to which it has come by accretion? Is any distinction and such as is not?

Question 2.—Where, by a sudden change in the course of the deep stream, land which is susceptible of identification has been transferred from one side of the deep stream to the other, will such land remain the property of the original owners, or will it go to the village community adjacent to

whose boundaries it has become situate?

These two questions are most conveniently taken together. The history of the custom prevailing between villages on opposite sides of the River appears to be as follows. The course of the Satlej is constantly shifting within the limits of its valley, the present Bet tract, which has a width of five or six miles. Most of the villages were founded at the beginning of the present century; and from 1806 to 1848 the country on both banks, which was only partially entirated, formed part of the kingdom of Ranjit Singh and his successors. I do not suppose, then, that the Deep-stream rule, pure and simple, was ever in force. Disputes were not common because land was so plentiful, and the minor chiefs who held the country under the Lahore Darhar were probably a law unto themselves, deciding claims not on any fixed principle. Since annexation there have been innumerable disputes, as the changes in the River's course have been very violent, and there are few vill lazes on its, banks that have not been one or other party in a case regard ing doubtful land. The question may be said to be still to nesse extent in a state of flux, and it cannot, perhaps, be affirmed that any general set of oustoms is as yet absolutely established. The law creative faculty is still in operation, and will eventually, no doubt, with the aid of our Civil Courts, produce recognized rules to suit the fully developed condition of the Bet truct. I can only show what the present state of the sustem is.

Even where the Deep-stream rule (kishti bana, dhar kalan, &c.)

The Beyestream is retained, two medifications of it are almost relevishmedications. everywhere recognized. (It Land susceptible of identification, i.e., a portion of an estate lookly separated off by change in the course of the stream (rush gordani, baghat phir), belongs to the original owners. The great majority of the villages have in their statements necepted this; but there are disputes going on at present, and it is denied by one or two in Ludhiana and Jagraon. I do not suppose, however, that a Court of law would act contrary to this principle, even if there were much stronger evidence of a custom against it than exists; and I think that it may be considered to have acquired the effect of a customary law.

(2). Where the whole area of an estate has gone by diluxion, the proprietors are entitled to land re-appearing on the same size. The site is determined by the map of the Regular Settlement (1850), this being the period which the villages accept as their starting point in all questions of title in land of this character. The above rule has nowhere been decied.

Between most of the villages of the Samrala tabsil and those of Garbshankar and Nawashahr tabsils facing them, the Deep-stream rule has been entirely abrogated, and in its place that of "thákhast bana" or "hadbast bana" adopted; that is the warpar or lenden rule of other parts, by which the boundaries of each village are of a fixed character and meet, whether the land is covered with rater or not. The

boundaries accepted are usually those of the Regular Settlement; but in some few cases the people hold out for those of some particular year, in which there was a dispute and a decision given, or an agreement come to on the point. The fact is that in the first ten miles of its course through the Samrála tahsil, the Satlej has shifted its course so much that most of the villages now on both sides of it were thirty years ago removed from its banks, and had perfectly defined limits. we have now included in our inquiries villages that may hereafter become liable to the action of the River, and asked the proprietors of them by what rule they will abide, the answer has been in every case that they will adhere to their present boundaries. Some few villages in the upper part of the Ludhiana Bet have also agreed with those on the opposite side to abide by fixed limits; but in Jagraon and the greater part of the Ludhiana tahsil the rule of accretion, that is of the Deepstream with the two modifications noted above, still prevails and has been acted on.

The rule of fixed boundaries, which appears to have been adopted in the Samrála villages by agreement some twenty-five years ago, is obviously the only just one; and I doubt not that it would be accepted by the whole of the villages on both sides of the River. The difficulty would be as to what should be taken as the starting point; but I have no doubt that most villages would accept the Regular Set-lliminent made about 1850, in which rights were for the first time properly made,

the Department rule, even with the modification above, may give results that are really most inequitable, as will be seen from two instances. The land of a village may go by abrasion till only five or six acres are left, fresh land being thrown up within its Settlement boundary on the opposite side of the River; but because of this petty area still left, it could not by the rule, if followed strictly, recover land according to its old limits. Again, the land of a large village may go gradually by alluvion to the opposite side of the River, till only a narrow strip is left, and the stream then suddenly change its course, transferring bodily (rukh girdání) a large plot which, because recognizable, is given to the people who held it for a few years on the opposite side. Thus the original village is cut off effectually from any chance of recovering land, being denied a frontage on the river. This latter instance is founded on the facts of a case decided by me in the Kasur tahsil of the Lahore district some years ago. In the record of our inquiry (Rawaj-am burd-c-baramad) it will be found that we have shown very fully the exact state of the custom at present, an account of what has happened in almost every village being given, with lists of the villages which now accept each custom. With this and any other information that the parties produce, the Courts will have to decide what rule should be applied in each case as it arises; but I should think that, where an agreement by a village to accept a certain rule has now been recorded, effect would be given to this as to a regularly established custom.

429. Question 3.— Where by the separation of the deep stream an island has been formed from the river bed opposite two or more villages on different sides of the river, to which of such villages will the island belong?

Where the rule is that of the Settlement boundary (thákbast bana), the area of both villages is first made up to this limit, and whatever is over, lying between them, is divided and assigned to each village in proportion to its Settlement area. Elsewhere the Deep-stream decides the question, the island belonging to the village which is on the same side of the deep stream. An island is called Mand.

430. Question 4.—Where there are two or more channels, by what Bule for determining the rule is it determined which should be considered the deep stream?

The deep stream is that which contains the most water, width and death being considered. Where the width of two streams is about the name, the death is measured. Where it is quite impossible to deside by ordinary menas which stream has the greater volume, a boat is let go at the point of separation and the deep stream is that down which it floats

II .- Custom between villages on the same side of the River.

Land re-appearingen the site of and it has been destroyed by diluxion, and land re-appears on the same site, but is not susceptible of identification, will the bind go to the proprietors of the village on the site of which it has re-appeared, or to the village to whose lands it has become attached by accretion?

The answer to this has been given above—the second modification of the Deep-stream rule that I have noted as accepted everywhere, not merely where the rule is that of the thákbast bana. The village whose land has been destroyed is entitled to recover the whole of its land according to the Regular Settlement map.

Rights in land thrown ap in front of two adjoining accretion, how is the boundary between two adjoining villages.

432. Question 6.—When lond is recovered by accretion, how is the boundary between two adjoining villages in it determined?

In all cases the maps of the Regular Settlement, so far as they go, are accepted as defining the limits of the adjoining villages. Where land beyond these limits has to be divided, each village gets the land in front of its Settlement area. Where the rule is that of the land bana, the case could not arise, as all land in the bed of the line belongs to some one. In the Ludhiana Bet it is said that the boundary between two villages is determined by continuing the line of the last two boundary pillars of the Settlement map. In Jagraon the limit is said to be a straight line (presumably one due north) to the River. There is, I am afraid, no certainty on this point. In places land-marks beyond the reach of the River are recognized as giving the line of division between two villages; but generally it has to

he determined, according to the circumstances of each case, how much of the land can be said to be in front of each village, no more definite guide being given.

III.—Between Proprietors of the same Village.

A33. Question 7.—To whom belong lands gained by alluvion or Rights of the village avulsion? Do they belong to (i) proprietors of land destroyed by diluxion on the site where the accretion has formed? or to (ii), proprietors owning the lands anjacent to which the accretion has formed? or to (iii), the village community?

Do the rights vary according as the land gained is or is not capable of

identification ?

As to the disposal of land that comes to a village by accretion or hy change in the course of the River (but the latter is scarcely a possible contingency, as the land would belong to the original proprietors of the other side) the customs are various. (a) It may be the rule to make up the losses of each co-sharer annually from the village common, or from land held by other sharers. In this case the new land naturally becomes the property of the community. Or (b), it may be the custom that each co-sharer has to bear the loss that he suffers from the River, and must wait till land again re-appears on the side of his fields. In this case all land secovered outside of the limit of the Settlement map, or which has never been in the possession of a proprietor, becomes village common property. (c) In four or five villages the outtom followed appears to be that losses are not made up to the losing proprietor, and still new land recovered becomes village common, rather an inequitable arrangement surely.

The details as to these various customs will be found both in the Rawaj-am burd-o-baramad and in the Administration paper of each village. The entries in the latter were attested by the Superintendents along with the other provisions of the paper; and should prevail against the former, if any discrepancy appear, which I scarcely expect.

Question S .- Where on the cite of bind destroyed by diluvion new land is formed, and the old land had been partitioned, will such partition be

maintained in the new land?

The answer to this has already been given in that to the last question. Where the loss of each co-sharer is made up annually, the new land would be divided afresh according to the village shares. Where the fields of the Regular Settlement are perpetuated, a fresh partition could only take place of land outside the Settlement limits; and the partition would thus be an entirely new one.

IV .- Rights of Tenants.

484. Question 9.—When the land of an occupancy tenant goes by diOccupancy rights in luvion, is he entitled to have his land made up from
havi going by diluvion the village common, or from the land of the proprietor under whom he holds? When land goes by
diluvion and fresh land appears on the same site, does the tenant recover
his rights in it?

Oceanney tenant right being a creation of our rule, it was not to be expected that we should find any engine existing on this point. There are very few occupancy tenants in the villages along the River; but the attentation was done by inquiry from such of them as were present. Where, as is often the case, the occupancy tennal holds a share of the hand of the village, his right was recognized (except in one village) to get his portion of the hand assigned to his proprietor in the annual adjustment. When a proprietor is emitted to hand appearing on the sine of his Settlement fields, the occupancy tenant is also entitled to recover his rights in the fields that he held before. These two principles are not undisjuted; but we cannot expect an established and admitted custom on the point. It is likely that the Courts will accept and affirm the equitable principle that the mere arbineration of the hand, being a fact beyond his control, does not destroy the right of the hereditary Where the tenant holds a share of the village, he differs at present but little from a proprietor. The question of his sharing in the division of the ordinary " chamilat" must be kept distinct from this rule, which would only estitle him to have his holding brought up to its sice at the time of actestation of rights in the Regular Settlement.

B.—THE WAJIB-UL-ARZ, OR VILLAGE ADMINISTRATION PAPER.

An Administration paper was made out for each village under chase 5, section 14, of the Land Revenue Act, Mature of the provisions according to the heads prescribed in the Rules. of the wajih-ul-arz. Some of the provisions of this paper are merely expression of the orders of Government in regard to the payment of revenue, remaneration of village officers, &c. Those concorning the relations of the village community, proprietors and residents, amongst themselves, are in the main founded on usage; but they are really of the nature of agreements, and are liable to be altered from time to time with the cousent of the parties. It is not from the fact of their expressing the energy hitherto followed on any point that they derive their force, but from the agreement of the parties to shide by them. On one or two policies it will be seen from the analysis, which I am shout to fire, enstorn is still followed; but on most this has been

The former wajib-ul-arz of the Regular Settlement was made out about the year 1850. It had the rune legal force as the rest of the Settlement Record; and its provisions could only be altered in the same way as entries in the Record, i.e., by agreement, by judicial decision, or according to facts subsequently occurring. The old conception of a wajib-ul-arz was, however, different from ours; and the former paper expressed rather what the Settlement Officers thought to be proper rules for guidance in the matters concerned, than either the customs or the agreements of the people.

modified in order to suit the sitered conditions of the rillege.

The greater part of the provisions were identical all over the District, and there were but few points of difference between the conditions

for the villages. In fact the paper was a series of rules prescribed by the Settlement Officer for observance in the management of village affairs. Some of the matters as to which the old wajib-ul-arz contained directions have been since provided for by general law; while some of the conditions, being founded neither on custom nor on agreement, have been inoperative from the first, and others have since become so.

The new or revised wajib-ul-ars. Custom or agreement were carefully attested for each village by the Superintendent on the spot, and practically in the presence of the whole community, proprietors and residents of the mercantile, artizan and menial classes. There is room for a good deal of diversity in the various matters of custom or arrangement between the members of the community; and I think that all details which are peculiar to any village have been recorded in its wajib-ul-arz.

The first clause of the revised wajib-nl-arz gives the amount of the new assessment, the instalments in which Clauses I and 2; Governit is to be paid, and the method of distributing ment revenue and cesses. it between the co-sharers, while the second details the cesses. As will be seen from paragraph 313, the distribution of the revenue is a matter with which custom has but little to do; nor would any weight be attached to a claim that a certain method (bdch) should be continued, because it has been in use from time immemorial. The wavenue payable for each holding aught to be fixed entirely with reference to the reviabilities at the time of assessment, unless the proprietors agree to maintain some customary form of distribution, or to apply some new one which they consider more suitable. As a matter of fact, although the original village shares have not been completely lost sight of, they have in very few cases been used for the purpose of the internal rating of the village for the revenue demand, and the extent or quality of the land held by each co-sharer has been accepted almost everywhere as the test of his liability.

Clause 31 Partition of that prevented him from getting possession of that prevented him from getting possession of it could not, under any circumstances imaginable in this district, have effect even if it had been recorded. Re-allotment of land once divided, and readjustment of the revenue demand during the term of the Settlement are alike unknown (the conditions as to land subject to the direct action of the River can scarcely be called an exception to this statement).

Clame 4: Partition and management of the village perty as roads, ponds, &c., are necessarily excluded from partition. It would, perhaps, have been possible to do something towards the protection of the grazing lands that still remain in some villages; and there was a desire on the part of the people that they should be

allowed to bind themselves by some strict conditions on this point; but a departmental order (Settlement Commissioner's Circular No. 21 of 1880) forbade the insertion of provisions restraining the power of the sharers to demand a partition when they chose. The partition, it was laid down, must not be made to depend on the wish of the majority; and, practically, any single co-sharer has the power of insisting on being put in separate possession of the portion of the common land to which he is entitled. The question of protecting grazing lands is not, however, one which has very much importance in Ludhiána, as the cattle are almost entirely stail-fed; and I do not see how it would be possible, without special legislation, to restrain a proprietor from the exercise of such an undoubted right.

Under this clause are recorded the method of managing the village land, so long as it remains common property, and the manner in which it is to be partitioned. Village common land may be cultivated by a proprietor or other person with the consent of the community, given on their behalf by the lambardars or headmen. Any one cultivating in this way is a tenant of the community, and the rent fixed by the lambardars for the land is an item in the common village receipts. There are other receipts from the common waste land in some villages on account of timber and fruit trees, grazing daes, &c.; and all such sums are either credited to the village fund, or distributed at once amongst the sharers, according to the manner of treating the village fund agreed on. Large sums are in some villages now and again realized by the sale of timber, and divided by the proprietors.

This clause also describes the manner in which a partition of the common land is to be effected. The measure of right of the proprietor or of the sub-division of the village is, as a rule, the ancestral or customary shares, seldom the khewat or amount at which the laud has been rated. Usually the land is first marked off into equal shares, which are assigned to the sub-division (pattis or thulas) by lot according to the extent of the rights of each. Inside of these again, the land is assigned to the individual sharers in various ways; but now-a-days most partitions are effected through the revenue ruthorities.

Clause 5: Rights over the village site, like the rest of the land, belongs to the proprietary body. The resident non-proprietors, who have presumably settled down with the permission of the co-sharers, are entitled to occupy the sites on which their dwellings stand; but they cannot transfer them, or even dispose of the building materials in some places, without the consent of the latter.

Atria.

Atria.

dues (atria) from all resident shopkeepers and artizans, really as a return for the privilege of residence enjoyed by the latter; but in most parts of the District the right has under our rule ceased to be enforced, and could scarcely be revived. In many villages there is a struggle going on even now; and it is not improbable that in time the custom will become extinct.

A small annual tax (from two annas to one rupee) was levied from each shop or artizans' house; and, under native rule, the Lambardar readily realized this, for he had great power inside the village; but of late it has generally been found impossible for him to make the people pay, as the only remedy is a separate suit for each single item by the proprietary body of the village or sub-division against the recusant shopkeeper, &c , and the latter would be as likely as not to get the best of the dispute. Most villages have thus allowed the right to become extinct; but in the Jangal and adjacent villages the proprietary body has retained its full anthority over the non-proprietary, and the dues levied in the shape of atrafi or by weighman's fees, i.e., an allowance on all transactions in grain taking place in the village, cover the village expenses.

Under this clause the rights of the proprietors to the manure of the residents is also declared; and certain Manure. minor dues, such as marriage fees, &c., which

are very uncommora

Clause 6 : Claims in respect of land taken up for public purposes; alluviou and diluvion.

No village recognized the right of a sharer, whose land is taken up for a public purpose, to have his loss made up either from village common or by contribution from the other sharers. He gets the compensation in cash from Government, nothing more.

The customs as to making up, the share of a proprietor who loses land by diluvion, and the disposal of land coming by alluvion, have been fully described in paragraph 433 ...

- The appointment and remuneration of village officers are regulated by law, and such details as are neces-Clause 7: Village officers. sary concerning them will be found in the Report.
- In paragraph 87, I have already given some account of the income and expenditure of the village fund Clause 3: Village exp n-(malbah). The exeries about it in the wajib-ularz are of considerable importance. The management is a fertile source of dispute between the Lambardars and the other proprietors, the former regarding the fund as absolutely at their disposal, and the latter constantly attempting to interfere in the control of it. In some villages the agreement recorded is that the Lumbardars shall collect a certain small percentage on the revenue (which has not been allowed to exceed the limit fixed by Financial Commissioner's Circular No. 4 of 1860), and are responsible for all the usual public expenses. When this has been accepted, it will usually be found that the Lambardar just manages to cover his outlay by what he collects. As a rule, however, the management of the mulbah is not entrusted absolutely to the Lambardár. There is a growing tendency to dispute the authority of this officer at every point; and, although it was not denied that there should be a village fund, to be expended for certain well recognized purposes, such as the feeding of fagirs, &c., an attempt was made to have it controlled by the whole pro-

prietary body. The provisions actually agreed to were usually to this effect. The Lambardárs have the right of spending money from time to time on the usual objects as the necessity arises, getting it from a shop appointed for this purpose (malbah-bardár). Twice a year just before the accounts of the village are made up by the Patwari for the realization of the instalment of revenue, the village fund accounts will be audited on a day fixed for the purpose, of which notice shall have been given. In the presence of the Lambardárs, and such of the co-parceners as choose to attend, the accounts for the half year are made up, and any one who wishes to do so may object to any item. The amount due is distributed and realized with the revenue demand by the Patwári. There is often a set-off ngainst the expenditure in the shape of atrafi and other fees; and in the Jangal tract the village expenses are more than covered by a weighman's fee levied on all grain transactions within the village.

- Clame 9: Sayer. that the sources of sayer income would be very few: Reference has already been made (clause 4) to the receipts from the sale of timber, grazing dues, &c.; and, in the remarks under clause 5, mention is made of the manner accumulating on the premises of residents who are not proprietors. Some few villages periodically distribute urgs sums obtained by the sale of dhak or other wood on the waste land; but from the other sources there is almost no income.
- 446. The only irrigation rights at present in the District are rights Clause 10: Irrganon to well. The shares in a well are often very rights.

 elaborately subdivided; and a record of them is to be found in the Nagsha Cháhat. Each sharer is entitled to a vá i or portion of a rári, that is the right to work the well for a day and night (eight pakes or watches) in the cold weather, and for a day or a night (four pakes) in the hot weather; and the succession of the váris is determined by lot. The movemble gear (rope and bucket) is the property of the sharer; and repairs to the well have to be executed at the joint cost. There are minor provisions on various points. The right of cultivators to sink wells is recognized under no circumstances.
- Clause 11: Propriete recorded as nucleur or abscending; and in those tors absent or out of days it was considered in the light of an possession.

 Offence against the State if a holder of land failed to fulfil his duty by cultivating it and paying the revenue. A condition was entered in the old wajib-ul-arz that such a sharer might get back his land if he appeared and claimed it within a period of twelve years. Now we recognize two classes of sharers out of possession: (1) Ghair kábiz, one who resides in the village, but has not got possession of his rights; and (2) Ghair házir, one who is also absent. It cannot be said, I think, that there is, or that there ever has been, a custom as to the treatment.

of the rights of absentees. Our law says that twelve years of adverse possession gives the holder a right as against the person out of possession; and it will always depend on the circumstances of each case whether the possession is of this nature or not. In the attestation of rights an inquiry was made as to the title of every person whose name appeared in the old (annual or Settlement) papers as a proprietor, but who was not actually found in possession; and the terms under which the land was held were set forth. Thus A was found and recorded as in possession of his own share and that of his brother or uncle B, who was absent on service, A managing the whole estate, and B retaining all his rights. This, of course, is the simplest case; but there were few complications. The persons entitled to the management of an absentee's estate, if he has made no arrangement for it himself, are his heirs in their proper order.

- Clause 12: Succession to, and transfer of, landed property; and the final orders on the subject are that no mention is to be made in the wajib-ni-arm of these matters, for to do so would be to give to the entries in the Rawaj-am on these points the force attuching to all mixings in the Settlement Record, and not merely that of evidence are extended the exercise of this right by the heire to cases of temporary transfer (mortgages); but the entries on this point were marely inserted by the Settlement Officer from an idea of what he thought fit; and they have been a dead letter from the first. They do not appear in the new Administration papers.
- 449. General provisions have been entered according to the wording of the orders of Government on this subject, reserving to Government all rights in Nazul-buildings, kankar, quarries, &c.; and these need not be detailed.
- 450. In paragraphs 319—521 of this Report, I have described the system sanctioned for the treatment of land subject to the action of the River; and the conditions; of lapsed maff. &c.

 The system sanctioned for the treatment of land subject to the action of the River; and the conditions, rates, &c., applicable to each village have been entered under this section of its wajib-ul-arz.
- Mást plots are invariably owned by the másidárs; and, on the eccurrence of a lapse or on resumption, the másidár or his heirs would have the right to engage for the revenue. If they should chance to refuse, the proprietors of the thula or patti in which the land is situated would have the right, the minor subdivision having the first claim.
- Clause 15: Levy of fines.

 Clause 15: Levy of fines.

 that is on houses; but such fines are, I believe, unknown now-a-days.

Clause 15: The rights of cultivators.

452. (1) The right of occupancy tenants to alienate their tenure is defined by the Tenancy Act.

- (2) Occupancy tenants have everywhere the right to cut trees growing on their holdings for the purpose of making the ordinary agricultural implements; and their right to cut and soll is also admitted in some villages. It is said that, when such tenant pays in kind, the proprietor is entitled to a share of the trees as of other produce.
- (3) As to manure—an occupancy tenant is entitled to use his own refuse heap as manure for his holding.
- (4) Tenants-at-will have no power of alienation, or of cutting trees; but they are entitled to their own refuse hears as manure.
 - (5) There are no recognized liabilities other than rent.
- 453. In paragraph 128 of the Report, an account has been given of the village artizans and menials, of the tasks Clause 17: Dues of to be performed by them, and of the dues village servants. that they usually receive. These will be found fully recorded for each village under this clause, as they were ascertained nt the time of attestation; but I would remark that the agreements between the proprietors and their bamine on these points are apparently, notwithstanding the fact of their being entered in the Alministration paper, liable to revision at any time. On the one hand an undertaking by a kamin to perform a certain task for the next thirty years could scarcely be recognized as enpable of being enforced against him and his heirs; and, if this view is correct, then the proprietor can scarcely be called upon to pay the dues under a one-sided agreement. The truth is that the entries are little more than statements of what tasks are performed by the kamins, and what they receive from the proprietors at the present time; and this is the way in which they have been recorded in many cases. On a claim being made by either party, it would be open for the other to show that the terms of the agreement had been altered in practice. I think that the true foundation of the agreement is this, that, in return for the privilege of being allowed to reside in the village, the kumin agrees to perform certain tasks, and the proprietor makes certain allowances to him for his work. The performance of the tasks is an incidence of the residence, and not a personal liability of the kamin; and the kamin could free himself at any time by leaving the village.

APPENDICES

TO THE

LUDHIANA SETTLEMENT REPORT.

NOTE.

Of the following Appendices Nos. I—VI contain information for the whole district similar to that already submitted for each tabell with the Assessment Reports. They correspond to Forms A to D prescribed by the Rules under the Land Revenue Act (C. V.)

Nos. VII and VIII are statements of land tenures in the forms of Statements XXXIII and XXXIV accompanying the Revenue Administration Report.

Nos. IX—XI show the Gazette Notifications, conferring powers on the Settlement officials, the case work disposed of by them, and the expenditure from all sources on the Sottlement.

Nos. XII—XV are not specially prescribed, but give information on several subjects of general interest, which could not conveniently be included in the body of the Report.

APPENDIX I.

STATISTICS OF AREA, IRRIGATION, GENERAL RESOURCES
AND ASSESSMENTS.

मस्प्रयंत्र तपन्

APPEN

1	2	3	4	Ď	6	7	8
				NUMBER OF	VILLAGES.		
Serial number.	Name of tshail.	FORMER AND PRESENT STATIS- TIOS COMPARED	Klisten.	Shared.	Jágir.	Total.	Total area.
1	áls.	Former	197	9	67	273	1,84,598
	Samráls.	Present	214	18	41	278	1,84,589
2	Ludhisns.	Former	855 857	20 19 717	82	457	4,40,157
į	Lud	Present	866	16	77	459	4,84,039
8	ion.	Former	161	8	c	175	2,63,203
	Jagráon,	Present	168	5	2	175	2,63 ,509
4		Former	713	87	155	905	8,87,953
	Total.	Present	748	39	120	907	8,82,167

[v]

DIX I.

9	10	11	12	13	14	16	16
	SECTIO:	N L-ARE	A AS ARI	RANGED	FOR ASSE	SMENT.	
MINBAL		Marge	ALDI OD 134	BLE TO ABBI	CORNER D	DETAIL OF VALED	
E 165	SBD.			, La 10 150.		(Artiflewilly	rrighted.
and near	urable.	Cultu	irable.	fed m. fallow than 2	ole to	Chain proposed from well-) Desia	
Forest and Government property.	Useribur	Culturable waste.	Fallow of 2 to 4 years.	Cultivated chading the of less the years.	Total linble to	Nist (1st class).	Khális (2nd cleas).
16	16,584	21,461	4,083	1,42,499	1,68,043	20,016	24,829
2,760	17,260	14,138	1,461	1,48,970	1,64,569	.16,802	29,349
478	37,000	67,425	8,36p	2,26,834	4,02,619	17,052	23,311
İ	1	: :	बद्यपंव	नप्रने	1		1
3,475	26,650	50,909	2,979	3,50,020	4,03,914	27,548 1	13,990
82	15,398	35,208	4,058	2,98,507	2,47,773	-7,470	6,104
1,916	14,433	15,748	1,429	2,30,013	2,17,190	11,850	3,423
526	68,992	1,24,094	16,501	6,77,840	18,18,435	 41,538 	53,774
8,151	58,848	80,795	5,869	7,23,009	 8,15,678 -	56,200	46,762

APPENDIX

23722	77,52,25 2		17	18	19	20	21			
			s	ECTION I	AREA	AS ARRAN	GED FOR			
				DETAIL OF CULTIVA						
		FORMER AND PHESENT STATIS- TICS COMPANSO.	Artii	Scially irrig	ated.	Not	artificially			
ember.	teheil		ું કું - કું	irri. D.	-:	В	rt.			
Serui nember.	Name of tahail.	:	Crafti Bot.	Other irrigation.	Total.	Dofusii (Ist chies.)	Ekfasli (2nd cluss.)			
1	Samrila.	Former	(11)	107	44,650	6,391	12,887			
	Sam	Present	350	144	46,645	13,172	5,943			
. 2	Ludliána.	Former	2,172 (4)	1,414	48,979	17,232	46,414			
	Ludl	Present	4,593	462	46,593	12,442	43,212			
3	Jagráon.	Former	328	107	14,909	1,702	7,467			
	Jane (Present	1,331	53	16,657	4,888	5,743			
4	-i -	Former	2,611	1,718	1,02,641	18,825	66,768			
e e e e e e e e e e e e e e e e e e e	Total.	Present	6,274	659	1,09,895	80,002	54,898			

[vii]

I .- (Continued.)

22	23	24	25	26	27	28	
Assessment	r.—(Concluded)	SECTION II.—RESOURCES AND CAPA- BILITIES CONSIDERED IN DIFFERENT ASPECTS.				
ABRA.			Abra an	D PRRCENTAC	e (un cota	ия 18).	
rrigated.			į	nfe-at-	nta-nt-	ģ	
Dh	ria.	Total.		Beld by tenants-ab- will paying in cuela	Held by tenanta-ni- will paying in kind	even and a	
Dakhar and Rousii (Loam.)	Rousii Buur (sand)			Held b	Held b	Under gugartane.	
54,599	28,969	97,846	44,653 31P.C.	,,,	***	8,479 6P.C.	
55,947	27,263	1,02,325	46.645 31 P.C.	12,375 8P.C.	16,058 111° C.	9,256 6P.C.	
1,93,293	32,916	2.82.535 सन्दर्भ				3,012	
1,97,788	49,991	3,63,433	46,598 13P C.	22,364 6P.C.	88,964 10P.C.	3,960 1P C.	
1,28,758	56,571	1,91,498	14,009 7P.C.		 !		
1,29,943	78,282	2,13,356	16,657 7P.C.	14.200 6P.C.	22,913 10P.C	51	
3,76,650	1,13,456	5,75,199	1,02,641 14P.C.		 	11,491 2P.C.	
3,83,678	1,50,536	6,19,114	 1,09,895 15P.C.	48,930 7P.C.	72,935 1eP.C	13,267 2P.C.	

APPEN

			29	50	31	32	33		
			SECTION IL-RESOURCES AND CAPABILITIES						
		FORMER AND		DETAIL OF	ARBA NOW	UNDRE T	na avelore		
		PRESENT STA- TISTICS COM- PANED.		Y	labi or Sprie	ng harves	t.		
her.	ulışili.		irrigated or un-		which kind repoid.	m bicht			
Sornel manufact.	Name of tulisfil		- Julian		2r d elses (eduer ero.s.)	Cropson a	Total rabi.		
1	<u></u>	Former	£51		,	,			
	Samrila	Present	Irrigated Unicrigated Total	20,139 26,118 46,557	7.685 23,020 80,655	1,322 287 1,609	29,896 49,425 78,821		
8	널 (Former							
	Ludhisna	Present	Irrigated Unirrigated Total	24,020 87,004 61,024	9,969 1,38,159 1,48,128	3,008 1,648 4,646	86,992 1,76,~06 2,18,798		
3	ei (Former					•••		
	Jagraon.	Present	Irrigated Umrrigated Total		9,436 1,33,380 1,37,325	1,499 255 1,754	15,905 1,40,335 1,56,240		
4	. (Former	•••						
	Total	Present	Irrigated Unirrigated Total		21,040 23,05,068 2,16,108	5,824 2,185 8,009	82,293 3,66,556 1,48,859		

DIX I .- (Continued.)

34	85	36	37	- 38	39	40	41
CONSIDE	ומ או משק	FFFFF	VT ASPEC	TS _ (Conti	and)	· · · · · · · · · · · · · · · · · · ·	

CONSIDERED IN DIFFERENT ASPECTS.—(Continued.)

DETAIL SHOWING CLASSES OF CHOPS. (See APPENDIX IV.) AGREEMENT OF ARRAS CULTIVATED & CROPPED. Total area cultivated and fallow (columns 12 and 13.) Khaif or Antumu harvest. Total of both harvests. arope. Crops on which kind Crops on which each rents are paid. rents are paul. Total area of Potal kharif. Ist class maige and let chase (sugar, in digo and vegriables, and olses (other orepa.) 2nd olass (other crops.) 6.381 27,271 2,788 56,667 16,749 1,353 3,229 56,146 30,338 7,162 15,117 1.05,57131,691 9,610 18,205 83,117 1,62,238 1,50,431 1,62,238 23,911 3,159 8,212 31,104 23,676 1,057 68,096 1,188 10,277 72,636 45,162 1,29,263 3,06,0693,58,005 3,74,165 33,953 73,693 4,347 48,374 1,60,367 3,74,165 ... 9,936 611 170 1,515 12,265 28,170 64,283 75,176 2,15,511 1.698 15 9,180 64,927 10,695 87,441 2,48,681 2,81,442 2,48,681 11,634 185 9,710 7,515 70,640 1,52,933 50,361 3,054 2,60,585 4,432 19,137 1,67,257 69,753 6,27,151 14,142 77,274 3,31,225 7,34,878 7,80,084 69,498 1,70,311 7,80.084

APPEN

			42	43	44	4.5	46	47
			SEC	ion II.	-RESO	URCES	AND CAP.	ABILITIES
			Date	TIL BUOM	PAREA CU'	IIVATED		
		FORMER AND PERSENT STATIS TICS COMPARED.		Dedn	rtions.		2 and	Ţ
Serial number.	Name of taliafi.	-	Cultivated after	Iwice areacrop-	Area cropped	Total.	Area of columns 12 and 13 and 13 actually cropped,	Ditto not cropped.
1	ila.	Former						•••
	Samrála.	Present	211	90	18,023	18,394	1,43,844	6,587
2	igns.	Former		-378 410: 110:		•••	•••	
	Ludhiáns.	Present	250	1,080	34,018	35,348	3,38,817	14,188
3	į	Former					,	
	Pretion.	Present	722	711	-16,576 '	18,000	g.20.672	5,770
4	- <u>-</u>	Former	•••	•••	***		•••	•••
	Total.	Present	1,183	1,881	68,687	71,751	7,08,335	26,545

APPENDIX

Abstract Statement showing, for the principal Grops, the average rates as assumed in the produce estimates and the area

			27	28	29	30
					RABI	CROPS E
			BARLEY.	-{centd.}		G
	NAME OF ASSESSMENT C	BCLE.	BŁ	ur.	Dakhar ar	d Rouell
Name of Tabsfl.	4		liy Kaperiment.	Assumed.	lly Experiment.	Asrumed.
(Bét				•••	***
Samrale.	Lower Dhain				159	6
San	Upper Dhaia	相	2-155 Trip		225 13	240
-	Bét Kacha I	Name of the last	n dat		***	***
ļ	Bét Packa I	라장	भव नगर्न			1-4
- 1	Ett II		• • •	,	***	•••
1.18	Lower Diana	i	•••	100	178	200
Jor ton fan	Tipper Demonstra		111	120 [†]	217	 -ນ
	Pawauh	*** :		120	234	266
	Ţihára	}	•••	120	293	240
l	Jangal		•••	100	801	5 200
(Bét		140			
Jagraon	Lower Dhain	.	•••	'5 	192	100
Jug	Upper Dhaia	}	142	150	179	8 244

APPEN

James Sa												
			67	58	59	60						
			SECTION I	SECTION IL—RESOURCES AND CAPABILITIE								
					CLASSIPIED	TATUMENT OF						
		FORMER AND PRESENT STATIS-		Khi	ilin.							
Serial number.	Name of tabuil.	TICS COMPARED.			Three and four buckets.	Lotal.						
1	Samrala.	i Framer				····						
	San	Present	957	608	•••	1,565						
3	Ladhisns.	Former		E P								
	I.ed	Present	स्ट्राप् व 648	262	5	915						
3	Jacrehon.	· Former				· · · · · · · · · · · · · · · · · · ·						
; : !	1	Present	119	107	25	250						
4	-i	Former		: :		; !						
	Total.	Present	1,753	977	30	2,760						

[xiii] DIX I .- (Continued)

61	63	63	64	65	66	67
CONSIDE	RED IN D	ifferent	C ASPECTS	(Continued.)	
MASOFRY	WELLA.					_
	Bet.			1	Potal,	
One bucket.	Two buckets.	Total,	One bucket.	Two duckets.	Three and four buckets.	Total.
***		<	1,778	7 6 9	,,,	2,547
81	2	83	1,671	1,085		2,756
•••		,	2,210	966	57	8,283
745	8	748	2,845	958	43	8,846
•••	•••	•	503	464	113	1,080
121	4	125	698	551	106	1,855
	•	•	4,491	2,199	170	6,860
947	9	956	5,214	2,594	149	7,957

APPEN

المراجعة				****		مغرستستست.					
Ì			69	69	70	71					
			SECTION II.—BES	SOURCES	AND CAPA	BILITIES					
			Water	WATER CAPACITY OF WELLS.							
Serial number.	Name of tahall.	Average de			Number of yoke of onen required per bucket.	Average of crops irri- guted municity by each well.					
1	ė (Former		R 3.		•••					
	Samréla.	Present	Bet 10 feet Dhaia 38 feet	100 350	2	9 21					
2		Former		• •••	***	•••					
	Ludhikan.	Present	Bet 10 feet Dhaia 30 to 50 feet	100 800 to 550	2	11 19					
3	<u>;</u> (Former		•••							
	Jagráon,	Present	Bet 10 feet Dhaia 30 to 50 feet	100 300 to 550	 2 4	 20 21					
4	{	Former		•••		••.					
	Total.	Present			•••	B. 12 D. 20					

DIX I .- (Continued.)

72	73	74	75	76	77	78
CONSIDE	RED IN DI	FFERENT	ASPECTS	.—(Continued)	
CAT	TLE.		!	POPULATION		etion.
Rumber of plough and well cattle.	Other cettle.	Kumber of ploughs.	1854.	1868.	1881.	Average repulation per equate mile of cuitivation.
30,88 3	26,663	14,621	1,31,218	1,42,851	***	•••
85,870	55,668	16,031		•••	1,52,509	655
53,921	87,128	21,700	2112.584	250,718		
66,214	98,743	29,655	सन्द्रमन	मयने "	3,07,559	560
28,919	51,785	11,283	1,17,895	1,48,317	.,,	
35,491	51,428	16,369	•	~.	1,58,767	443
1,18,578	1,65,876	47,670	4,91,697	5,77,386		***
1,87,665	2,05,834	62,055	***		6,18,835	543

APPEN

		79	80	81	82	83
			SECT	FION III.—8	UMMARY &	BEGULAR SETTLE
			ar Settlemen ary Settleme		ABBEHAMENT TAICT OF SETTLEM	
Serial number.	Name of taheil. Number of villages		Bumnary arsesment.	Regular Settlement assessment for these villages.	Amount given by the retous rates.	Sanction d assessment.
1	Samrila.	205	2,50,872	1,99,317	2,96,346	K. 2,62,084 M. 3,821
	န္မာ (•••			•••	Total 2,65,855
2	Ludhiána.	849	8,38,185	3,25,811	5,07,358	K. 4,81,842 M. 16,187
	Lud	•••	•••	यसमूह नह		Total 4,48,029
ا	Jagreion.	107	2,32,561	1,52,084	0.70.710	K. 2,04,050 M. 10,708
	- -		4++	***		Food 2,11,897
4	Total.	721	8,28,058	7,57,214	10,83,414	K. 9,28,535 M. 30,246
	Ĕ (<i></i>		•••		Total 9,58,781

[xvii]

DIX I.-(Continued.)

81	85	A-T 2		86		 	87			83		89	=- ==
MENTS	COMPAR	ED.	SET SETI	10 N 14 F N 20 D	JV, v SENI A USE E	85E88 - WOR - TIM	ME: KRI VTE:	NT NO OUT F	W FTS MOM FIN	CUĎIÑT PHRAEV AULY A	PICE I POUT NO	ČEVI CICA!! UNC	SEÖ EA ED,
of our		•	i				. SSP:	6: M t. N 1	RATI	: A			
16.TO.17	Miren of		 - 		· • - •			rerigat	e-1.				· · · · · · · · · · · · · · · · · · ·
Assessment of the your of our survey (1879).	Bate on cultivation of the		NIEI Cháini.			Kháis Ohá i.				Ch á hi Bét			
2,61,8	1 13	10		•••								•••	
1			3	() 12	0 to	3	2.4	f) to	1 12		3	0	v
4,30.2	181 1 7	1.				• • п • • п			1	•••			
			1 4	6	0 to	1 3	니다 나 4	ti ta	3 12 3 15		3	12	0
2,33,5	25 1 2	10		• • • •	••			•		***	-	•••	
			3	0 12	0 to	2	8	0 to	3 12	0	3	12	0
9,25,6	1 6	; , ,							!	•••		1* 0	
				•••	·	<u> </u> 	•••		:			· ·	

[xriii]

APPEN

		90	ÿt	92	93				
		SECT1	ON IV.—ASSESSMENT NOW FIXED IN TH PRODUCE ESTIMATES AN						
			ASSESSENT RATI	is —(Continued.)					
			Cnirr	igated.					
Seriai number,	Name of talusil.	Dufaeli Bêt.	Ekfaşli Bét.	Dab'ar s' d Rousli.	Bhar.				
1	Samtála.	2 10 0 to	 1 8 0 to 1 12 0	 1 0 0 to	 0 10 0 to				
	<u> </u>	3 0 0	1/12/0	1 6 0	0 14 0				
2	Ludbikon	•		•••	•••				
<u></u>] ½ (1 10 0 to 2 12 0	1 12 0 to	0 11 0 to 1 6 0	0 8 0 to 0 14 0				
3	· · · · · · · · · · · · · · · · · · ·] } 						
	Jagrafon	1 16 6 to 2 0 6	1 4 0	1 0 04.	0 10 0 to 0 12 0				
4					***				
	Total.			,					

[xix]

DIX I .- (Continued.)

Assessment by rates

Produce estimate

, · · *********************************	****		,	
94	95	96	97	98

REVISED SETTLEMENT AS WORKED OUT FROM THE REVENUE BATES AND AS FINALLY ANNOUNCED.—(Continued) ABBLARMENT ON THE VABLICS BOILS GIVEN BY BATES AND THE PRODUCE

ESTIMATES COMPARED.

Irrigated. Other irrigation. Assersments by revenue rutes and produce estimates. Chahi Bet. 2029 1,04,698 76,236 Assessment by rates ... 2 604 Produce estimate 85,362 1,03,248 42,628 17,224 1,423 Assessment by rates 1,15,833 1,35,760 24, 102 48,195 Produce estimate 44,326 8,547 4,478 Assessment by rates 49,107 9,405 8,359 Produce estimate

2,36,395

2,70,231

...

1,55,873

1,60,848

23,731

35,065

1,428

				35: 5: : : : -	en i de la company	. Norway and and and and and and and and and and
			8 9	100	101	102
			8ECTION	IV.—AS	ESSMENT LATES AN	NOW FIXED D PRODUCE
			ABBESEN B BATES	AND THE P	TARIOTS SOL	ERTALL
		Assessments by revenue rates and produce estimates.			rigated.	
Jer.	haff.			~		
Serial number.	Name of taliaff,		Doffeli Bet.	Skfaeil Bei	Pakbar anit Roueli.	
Serie	Nerg	E) ig	Dák)	Bhur.
1	ež (Assessment by rates	35,426	10,366	74,523	20,376
	Saurála.	8		7		
	× (Produce estimate	44,198	11,280	77,544	19,606
2	, i	Assessment by rates.	29,299	57,975	2,21,498	87,784
	Ludhiáns,	ē	समित्र मध	7		_
-	1 (Produce estimate	36,855	62,884	2,40,838	37,907
3) نے (Assessment by rates	2,513	9,773	! 1,50,472	51,840
	daprána,	:		• B	:	
	- (Produce estimate	8,770	6,128	1,63,169	55,034
4	. (Assessment by rates	67,568	78.111	4,49,593 l	1,13,000
	Total.					
	(Produce estimate	89,632	80,592	4,81,551	1,13,449

REMARKS.—The details in this statement are taken from the Assessment Reports, minor correction of alterations by alluviou and diluviou since the Assessment Reports were submitted

3. (1°ds 78—81). Only the Khats villages were summarily assessed, and I have shown the number of

3. For an explanation of coloud see paragraph 30% of the Report.

4. These discrepancies between the figures of (cols. 10% and 10%) are explained in the Report.

DIX I .- (Continued.)

		·			
103	104	1e 5	103	107	108
	<u> </u>	<u> </u>	<u> </u>		
IN THE BEY	ASED SELL	EMENT AS	WORKED O	UT FROM T	HE REVENUE
RSTIMATES	AND AS FIN.	ALLY ANNOT	CNCED(45)	otinued)	

Total name week green by the ASSESSMENT ACCULALLY ANNOUNCED WITH IT DATE ON CULTIFATION. referent rates samtioned with percentage (10) lumin 64 and 104) Bate on cultiration (co. lumes 13 and 10 6.) Detail of assessment amounted. Klid an mid Jag'r Total. 46,715 18 P. C. 2,871 8,11,457 2 3,23,654 3,08,586 5,28,764 5,11,852 81,571 19 P. C. 2,78,279 2,71,177 8,394 2,79,871 8 37,952 6 16 P. C. 1,66,238 11,25,697 10,91,915 20,729 11,12,644 18 P C.

heing made where necessary. The number of estates does not agree with that of Statement G. because these with their Summary and Regular Settlements, including in the Summary the Settlement of 1842.

STATISTICS OF RENT.

APPENDIX IIa:—(Form B. prescribed by the Kules.)

CLASSIFIED STATEMENT OF TENANTS' HOLDINGS.

स्थापन नग्न

[xxiii] PPENDIX IIa.

'anants' holdings in Ludhiana District.

14	16	16	17	18	19	20	31	23	23	**	26	26	27	26	29
					RODE (PAT	SENT O	FRENT	POUR	o to El	1184.				
						Land Ri	ed atta	RICHT (7 00CEP	ANCY.					
					Ca	sh Benta					Bents in hid according to share of groduen paid.				
izeinered 450 Erigated.	4	reversion	Paring M	revenue alikana,	sed	Paying at por hi	a tata gab.	Paging	rent,		į				
	Fran of rant.	Payeng al. Jaich only.	Area.	Herenne.	Malitona.	åres.	Rerenda.	Area	Amonat of real.	Joral paring each sents.	Ore-half.	Тио-бява.	Ons-thirt.	One-fourth.	Total.
* Rollings	3:					33 15	117 117	4		224 713	11 6		26 50		3
i if deinga Area	141		=	1	\$ 200 to			-1.44 - 61	113	612 2,772	ő 4	::2 :;	78 374	27 37	17
Holdings		-			100 to	91	175	6	12		 	···		=	•
	175			2,079	205	316 1316	299	4.8 677	125	1,145 4,676	16 10		99 424	27 38	10 50 2
Haldings Area	6				24	21 10	18	op	59	3 KI 282	11	₁	103 211	12 31	t:
Holdings Area	124 34				159	175 227	347	176	545	2,190 7,851	112 827	108 649	741 2,021	82 895	1,1 3,9
Holdings			1,37:		213	5 4 75	190	181 501	1,204	365 1,945	:::	<u>.</u>	***	117	
{ Heldings	19		771 2.555	3,907	361	= 200 812	550	336 794	1,818	2 895 10,729	123 334	173 698	817 2,232	94 926	1 2 4,1
∏oldings Δrea		540 545				1	8	74 36	102	519 633	1 2	:::	26 22	329 360	3:
d { Holdings Ares	1	1,080 5,450			166			43 234	877	1,4% 8,50;	32 331		307 2,945	67 84	3,3
lieldrigs Area		<u> </u>] :::			=		473	827	6·4		···			
{ Holdings } Area	1			2,013	 165	1 2	1 8	177 745		2,057 9,615	33 333	***	335 2,967	884 446	3,7
{ Haldings Area	7				 33	55 26		107 60		1,08.5 2,27		···.	157 283	941 892	5
d Holdings Area	50	5 3,0% 4 15,47	719 2,677	2,919	315	182 234	 354	268 573		4,251 19 135	140 662	15p 71 s		166 1,016	1,6
" (Inlinge	\ -\		230 1,372		2:2	<u> </u> -	365	19t 98u	2,043	435 2,521			:::		
{ Holdings { Area	. 26 58	i[3,769 3 17,440 -		7,099	764	241 429	863	561 1,604	8,249	5,097 25,019	172 677	197 73;	1,281 5,623	507 1,408	2,11 8,4

Classified Statement of

1	1			-	•	7	•	9	10	11	13	13	
			Harm Bront Occupan Tanan	WITE OF !		LEIGET HCT OF	T UIGH T UKN O THE TEN THE TO THE TEN THE TEN	LEVE TO THE E	of tenants paying in	ftenants paying in	tenants.	cultivated area held	Datau-
Serial number.	Name of tahed.	Boldinge and area.	Paying cash rents and rent-free	Paying rent 10 kind	Reptifre or paying cash rent.	Paying rents in kind.	Rent-free or paying 1 ant in cash.	Paying tents in kind.	Total cultivation of tenar	Total cultivation of tenants kind.	Total collication by tensitia	parcentage of total cultirated by tenanto.	
													Irrigate
	۱.	Holdings	1,204	164	3,242	3,435	3,139	2,987	7,585	6,586	14,171		Unitrigs
1	Samrála,					_ 5		. 1					Mized
	- [Area	4 551	800	6,200	7,484	6,085	4,574	17,226 12 10	16,557	33,798	23	Total
			į	!				7			·		Irrigates
	l i	Holdings	3,057	1,231 	6,580	6,20.	3,310	4,641	i 13,176 j	12,073	25,259		Unterige
2	Ludhikos.				4		う。 う。 う。 う。 う。 う。 う。 う。 う。 う。 う。 う。 う。 う						Mixel
	12	Aron	. 11,122) , 4, 18:	13,672	17,148	8.692	16,816	33,486 9 p c	38,152 11 p.c	71,638	20	Total
													Irrigated
		Holdings	2,067	76	4 8,72]	5, 168	1,684	2,155	17,479	8,094	15,566		Unicriga
8	Jugrkon.	1											Lined
		Arcs .	9 621	3.74	9,10	 	6,091	8,23	23.92 110 to	26,657 12 n e	B0,48	£3	Total
											}		Irriguted
		Holding	6,35	2,15	13,55	14,91	8,33	9,68	28,23	26,758	54,996		Unirriga
4	Total.												Mixed
		Area .	25,60	1 8,41	29,07	39.36	8 19,569	33,62	74,54 10 p.c	81,376 11 p.c	1,55,916	Z1	Total

[vix]

APPENDIX Ha -- (C

Classified Statement of Tenanis' holdings in Lu-

			80	21	टा	33	34	16	36	37	SH	39	10	41
								Mot	EOFT	THEN	r of Mu	NI TOD	NU TO E3	19tr
										Land a	*10 #11	HOTT RIG	187 OF 100	FANCY.
Daziis es Unispigat			Cash zenta.											
V-1210148.	20 .—{C	on square	revento		earing	rent.	band	Paring at a rate i		Parrgat a rate per bigab		Paring generalitation of the books ;		† !
			Heat-fens.	Pavine st. 78468 ouly.	Atra.	Bercaas.	Bent.	Area.	Ment.	Ales-	Rept.	Alre.	Rent.	Total,
reigated	{	Leldinge	126 46	254 690	:::			690 479	4,750	304 401	2,400	932 800	6,713	2,249 2,6>4
Jairrigsted J	{	ladings	494 863	499 1,924	, m ²	17.		936 833	5.450	440 1 ₃ 015	¥5 5	473 1,000	4,524	2,8%£ 6,548
dired	{	Lindings	:::			(f. 85)	<u>.</u>		7	315 357	2,014	5]4 3,341	15,408	6214 3.734
Cotal	}	i danga i na	630 4.15	753 2,611	1,956	1,220 1,220	2,015	1,6:6	6369	ارة ال _ن اقية	. cgg	3,471 5,162	26,700	5 761 11,466
rriguted	}	jablinge 7 va	171 121	189 542	}			1,062 536	6,771	424) 268	2 11.	80h 3	8 37.	2,528 1,863
Inivrigated	{	Paldings) (M0	1,345 3,649	2.5			1,637	7,60	1,12 ⁻¹ 2 ± 9	8,761	1,5jr5, 3,805,	10,898	4,555 1,634
Mixed	{	Felengs	:::			Šina		5 13	72	20 62	2,611	1,139 7,190	32 215	1.415 8 486
l'otal	}	Poidings	1,171 1,041	1 53 i 4,19 i	179 912	1,427	1,82	.1, 9)	14,412	1,781 3,132	13,890	3 533 16,839	18,681	8,924 21,323
Irrigated.	{	Reldings	105 53	137 122				6		351 146	794	289 282	1,982	612 676
Joicrigated	ځ	Indings	515 361	735 2,375				:::		1347 2320	6.000	1,474 4,141	15,720	3,588 9,425
Mized	{	l aldings	::: :-	* *	·	<u></u>		***		160 500	2,23	4/10° 13.2° % 	12,234	3,417
Potal	₹	I ddings . aces	384	892 2,497	21 103	 160	'*. 171	6		3 5 41 1,083	11 133	2,143 7,654 		3,947 (13,616
Irrigated	{	aloiduigs	402 193	600 1.354				1,758 1,664	11,585	812 845	5,612	2,097 1,430	17,263	5,389 5,063
Unirrigated	}	lo klings	2,009 3,641	2 579 7,848				1.787 2,469	13,068	2.934 6.083	21,10S	3.944 5,451	29,140	11,400 26,005
Mixed	{	neldinge				1-1		, 5 9	₇₂	4×2 1,578	7,094		69,919	2,659 16.037
Total	{	foldings	2 4 - 1	3,179 9,302		3,822	4,076	3,550 3,550	 34,665	4,307 8,176		8,03; 28,675	1,01,324	19,474

hidua District .- (Concluded.)

E	43	14	1 6	46	47	48	49	50	61	6.3	63	54	45	**
rudes) 						ARBA					ING OTHE	SUB-T	ENANTS.
~			ng to she				Tena	Tenants with right of Tenants not having right						
	10 8100	i secului	10 102	re or pro		-		usenhere.). 		f occupa			
One-bail,	Two-filts.	Onethird.	One-fourth,	Two-revaniha,	One filts	Total.	B.Jdings.	Arra.	Heuf.	Holdings	Area.	Rent.	Holdinge.	Area
222 450	50% 912	1,141 2,266	20 37	2	•••	1 859 3,669	***	:::	•••		612 	:::		23
.569	85H 3,103	1,615 4,859	35 36	1 2		4,533 12,889	6		4	9 e	260		*!*	58
		1			•••								•••	
2 16 ,3-41	1,358 4,015		61 73	1 4	•••	6,422 16,058	6		3	109	823	34	54	
195 518	366 770	1,324	5) 63		***	1,936 4,671		b	3	5	 61		62	174
396	757) 2,826	2,058 10,943	89 835	-::		8,90a 29,293	22	82	100	310	2,099	94		174
:-			:::		***	P. J.		-17.5°E-)	-:-				***
5:11	1,123 3,596	3,982 13,978	140 388			10,826 38,964	F. 1 23	7:3	1ca	312	2,160	1,015	150	343
419 477	***	795 882	575 697	:::	32: 32:	957 2,081	41	28	28	 106		126		40
.428 .254		7,820	104 223		1	5 483 20,832	4	ابه	35	583	2 018	2,21 2	312	950
				:::	<u></u>	•	41	 1158	145	6	119	62		
:,763	2,678 	2,678 8 20 -	682 912		83 26	7,340 22,913	86	72×1	211	697	2 180	2,399	433	1,048
866 742		3 263 6,185	655 787	2		5 682 10,421	41	33	 3i	13	167	204	157	238
1918 ¹ 1,463		3,188 ¹ 22,542 ¹	225 590	1 2		18 916 62,51 t	32		13!4	1,013	4 371	3,15:	473	1,182
					•••		41	655	145	٠				5
,794 ,206	2,481 7,61)		883 1,585	1	3. 26	24,508 72,935	 114	827	318	1,15:	4,063	3,42	614	1,476
		.1		!			!							

I) IX IIb.

paying cash rents.—(Continued.)

21	22	23	21	25	26	27	28	
PAY	N (CHARO	TA) A L	UMP SUM	ON TH	E HOLDING	FOR T	IE YEAR.	
NI	и Снапі.	KHALI	e Chant.	Вя	т Спані.	OTHER ESSIGNATION.		
Area.	Reut. Are		Reut.	Ares. Rept.		Area.	Rent.	
291	2,782	499	8,90%		3	8	76	
	9 6 2	•	7 13 2				980	
212	2,551	e¢.		2-12-	317	7	108	
•••	10 9 10	•••	9 3 8	भव नय	8 1 1		15 6 10	
166	1,547	27	226	2	14			
	9 5 1		8 5 11		7 0 0	,,,	*****	
669	6,530	5#2	4,787	45	861	15	184	
•••	9 12 2		800		8 0 4		19 4 8	

STATISTICS OF RENT .- (Continued.)

APPENDIX 11b.

CLASSIFIED STATEMENT OF TENANTS-AT-WILL PAYING CASH RENTS.

सन्त्रमंत्र नवने

APPEN

Classified Statement of tenants-

1	2	3	4	5	6	7
		LAND H	ELD BY TE	NAUTS PAY	NG AT A R	ATR PER
ımber.	Name of tuboit,	NIAI (Знаці,	KHALIS	Bet	
Serial number.		Area	Rent.	Aren.	Rent.	Area.
]		92	607	308	1,782	,,,,,,
,	Samaa	•••••	6 9 6	,	5 12 7	•
2	Ludhiána {	96	1,110	172	8,0 4 1	17
	}		सन्त्रभाव अ 11 9 0	ा	6 0 10	
3	Jagrãon {	107	580	43	200 200	3
	Jugiann		6 1 1		4 10 1	
4	Total	285	2,306	528	3,023	20
	Total {	*****	8 1 5		5 12 6	

DIX IIb.

at mill paying eash rents.

is and the first of the same o	~			· · · · · · · · · · · · · · · · · · ·				أيجعد محجي
8	9	:	10	i	n	12	13	14
! '	'	· · ·						

BIGAH ARRANGED ACCORDING TO THE CLASSIFICATION OF SOILS ASSESSMENT.

Спант.	Do	FASI.I.	Er	Pagli.	DARHARA	ND ROUSLI.	
Rent.	Aten.	Rent.	Ares.	Rent.	Āres.	Rent.	
•••••	75	860		7	873	8,754	
		4 12 9		*****		4 4 1	
85) 	1000	િત મહી ક રિકાર્મ		1 1,702 	6,986	
0 5 0		2 5 4	प्रधान ज्ञान	1 9 2		4 1 8	
3	••••	•••••	94	107	2,055	6,387	
		*****		1 2 2		3 1 8	
88	, , , , , ,	2.4	280	405	4,630	17,127	
4 6 4		4 9 10		171	 ! 	3 11 8	

APPEN

Ulassified Statement of tenants-at-will

		15	16	17	18	19	20			
	Name of	BIGAH	LAND HELD BY TENANTS PAYING AT A RATE PER BIGAH ARRANGED ACCORDING TO THE CLASSITICATION OF SOIL ADOPTED FOR ANSENMENT.—(Concluded.)							
Bber.	tuheil.]	Bara,	1	dixeu.		TOTAL.			
Seriel number.		Area.	Rent.	Ares.	Rent.	Area,	Reut.			
1	Janurála {	67	134	387	2,041	1,803	8,688			
-21		•••	2 0 0		5 4 6	•••	4 13 1			
	(96	888	858	4,079	8,182	18,989			
2	Ludhiána {		8 15 10	वि नप्र	4 12 1		4 7 6			
	(505	982	711	2,857	3,541	11,125			
3	Jagráon (•••	1 15 1		8 1 4	•••	3 2 3			
	Total	6 68	1,499	1,989	8,980	8,476	33,802			
4	Total {		2 3 10		4 8 3		8 15 9			

APPEN

Glassified Statement of tenants-at-will

		29	30	81	32	33	34					
	Name of		PAYING (CHAKOTA) A LUMP SUM ON									
mber.	tuhsil.	D	OPASLI.	E	K FA4LI	Darhar Rousli.						
Serial number.		Area,	Rent.	Ател.	Rent.	Aren.	Rent.					
1	Saturála \	552	1,3%1		328	565	2,518					
_	(6 1 4		4 4 1		4,73					
2	Ludhiána {	163	605	785	1,827	1,471	5,566					
z 	Ludmana		3 11 4	(A .F.)	2 3 2	•••	3 12 6					
		97 <u> </u>	127	[1]	311	1,315	6,877					
3 °	Jagráon {		3 6 11		3 1 7		3 12 6					
•		427	2,113	973	2,199	3,854	14,961					
4	Totat	•••	4 15 11	•••	2 9 1	•••••	3 14 1					

DIX IIb.

paying cash rents.—(Continued.)

,		<u></u> -		,	
35	36	37	38	39	40
'	· —— - —— -		!. 		

THE HOLDING FOR THE YEAR.—(Concluded)

Bnı	/R.	Mix	eD.	Тот.	15
Āres.	Reat.	Ascu.	Rent.	Ares.	Reut.
63	115	8,348	15,466	5,078	26,518
•••	1 13 2		5 9 10		5 3 6
878	1,005	7,724	34,363	10,849	46,681
	2 10 6	ন্বা	A 2 2		4 4 10
1,281	8,576	4,232 	15,229	7,674	27,940
	2 12 7		3 9 6		3 1 5
1,722	4,696	15,304	65,058	23,601	1,01,139
	2 11 1	*9* . , ,	4 4 0	•••••	4 4 6

[xxxii].

APPEN Classified Statement of tenants-nt-will

<u></u>				tussifed Statement of tenants-nt-ion						
		41	42	42	44	45				
	1		P.	AYING (ZAB	TI) CAS	H RENTS ON				
Berial number.	Name of tabelt.	Neme of crop.		Ntat Спані,		Kualis Chart.				
Seria			Ares.	Rent.	Area.	Rent.				
	[Sugarcane	. 139	1,656	148	1,672				
		Cotton	. 28	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	40	$egin{array}{c cccc} 11 & 11 & 0 & \\ & & 263 & \\ 6 & 9 & 2 & \\ \end{array}$				
		Wheat		9 2 8	19	$egin{array}{c cccc} 6 & 9 & 2 & \\ & & 103 & \\ 5 & 6 & 9 & \\ \hline \end{array}$				
1	Samrála {	Wheat & Gram								
		Maizo	28	285	26	240				
		Charri		10 2 10	32	9 8 8				
	j	Others		5 8 0 24		4 11 6				
	į į	ريان		4 12 9		6 5 4				
	Ludhi á na {	Sugarcane	142	2,170	107	1,542				
		Cotton	. 55	15 4 6	25	$\begin{bmatrix}14&6&7\\&217\end{bmatrix}$				
2		Maize	140	9 1 5 1,715	 29	8 10 10 242				
		Charri & Moth	18	12 4 0	16	8 5 6				
		Othera		6 11 6 11)	! ; ;	: 2 9 4 ↓ 115				
	1	1717624		8 17 8		1: 6				
3	Jagráon	Others	. 1	4	•••					
	ſ	Sugarcane	. 281	3,826	250	3,214				
		Cotton	. 83	: 13 9 10 !	65	12 13 8 480				
		Wheat		8 8 0		7 6 2 103				
		Wheat & Gram		9 2 3		5 6 10				
4	Total		·							
	2.7001	Maize	168	2,000 11 14 6.	55	$\begin{bmatrix} 482 \\ 8 12 & 3 \end{bmatrix}$				
		Charri		11	32	151				
		Chari & Moth	. 18	5 8 0 121	 46	4 10 3 119				
		0.1		6 7 11		273				
		Others	. 23	7 11 2		134 12 2 11				

DIX IIb.

paying cash rents.—(Continued.)

46	47	48	49	50	51	52	53	54	55
The same and the s									
The state of the s									

THE CROPS CULTIVATED.

100	CACO	3 (0	CILVAIL						
	ET AHI.		OTHER MIGATION.	:	Dopasli.	E	RPASLI.		HAR AND
Area	Bent.	Area.	Hent.	Aren.	Rent.	Arca.	Rent.	Area.	Rent.
1	III			242	2,736	E .	65	7	56
			*****		11 4 11		10 13 4	· · · · · · · · · · · · · · · · · · ·	8 0 0
•••]		31 p.h.*q	2	23		*****	19	97
	•••	-73	*****	•••	11 8 0		*****	•••	5 1 8
	•••	•••	******		*****		*****	22	124
•••		•••	*****	~-	*****		*****	***	5 1 2
	•••	•••	*****		*****	***	*****	17	94
***	***	•••	*****	444	SACRE OFFI		*****	44.	585
	***	1	*****	2	15	1	18	1	7
1		***	*****	2	7 8 0		14	456	9 094
1	***		*****	21	280	6	2 5 4		$\begin{array}{cccccccccccccccccccccccccccccccccccc$
1		2	10	1	2 3 7		2 0 4	21	* 7 4
	1	1	5 0 0			2547 44			8 12 11
	-		·		7 1	44			0 12 11
	1			55	488	18	70		*****
			*****		8 13 11	1	8 12 0		*****
		1		1	5	1	44444	4	22
			*****		12. 37		*****		4 8 0
				11	€ 89		*****		*****
				***	8 1 5	111			*****
•	8		*****	8	बन्यम् २१	40	53	1,255	5,395
•••		***	*****	***	8 10 0		1 5 2	••	474
1	7		*****		*****		*****	30	146
1			******	•••	*****		•••••		4 13 10
	-					•••			*****
						,			
1	1.1			297	3,224	14	135	7	ບຄ້
•••					10 13 8		9 10 3	-4.	8 0 0
	1			3	28			23	113
1	***				9 5 4	•••	*****		5 2 3
			*****	•••	******		*****	22	124
	1 ***	***		· · ·	• • • • • • • • • • • • • • • • • • • •			***	5 10 3
•••	1 ***	•••		•••	*****	•••	*****	17	94
1			*****	19	304			***	5 8 6
	1	1	*****	13	104	1	18	1	7
	1		*****	2	8 0 0	1	7.4	456	490.0
1	1	•••		Ī .	2 8 0	ម	14 2 5 4	l	2.034 4 7 4
	3			8	29	40	53	1,255	5,595
1	1	•••		1	3 10 0	1	1 5 2	1,200	4 7 4
1	7	2	10	i	1 2		1 0 2	51	226
	1		1	1			1		4 6 11
1	١,,,	1			•••••	<u></u>	• • • • • • • • • • • • • • • • • • • •		4 6 11

[xxxiv]
APPENDIX IIo.

	r i - remiera.	· · · · · · · · · · · · · · · · · · ·	1 56	57	: : 58	1	60	61
Ł	Name of	N. constant	PAY	i ING (ZAI ROPS CUI	111) LIIV.	CASU ALFD	RENT -{Conc	' '8 ON TH tode()
Secial number	tuheit.	N me of crop.	}	Barn.		KRD.	TOTAL.	
Serie	1		Aren.	Rest.	Are	Kent	Aren	Rent.
	1	Sugarcane .		******	•••		538	
	į	l e	• •••	*****	***			11 2
	}	Cotton		*****	•••		80	9 9
į		Whent	, , !	*****			13	. 21
				Trans.			• • •	Gi
1	Saurála 🖁	Wheat & Gram			a(**		17	
- 1	į	Maize		100.174	1		58	5 R
		1		(25 10)				9 11
1		Charri	9	33			507	2.2.
i		Others	1.0	3 10 8	***	•••	••:_	4 6
	l	Others	13	2 0 0			45	3 11
		Sugarcane	El- enti-	L. 20			312	4,27
					1			13 10 1
	i	Cotton	•••	T			85	74
		Muize	1957	विकास विकास		•••	3.22	8 12
2	Ludhlann {	143 01710		******			180	2.94 11 11
i	}	Charrist Math	230	1996		•••	1,597	6,92
i		U(1. 3 ·	8	4 .	•••	•••	•••	4 5
ł		Califrantia		36 12 9	• • • •	•	64	'): ៩ 35
'	·····						·	
3	Jagraon	Others		******	<u></u>	٠ ســــــــــــــــــــــــــــــــــ		
	ſ	Sugarcane	•••	*****		į '	850	
i	}	Cotton	: - - ;	*****	i	;	171	$\begin{array}{ccc} 112 & 5 \\ & 1,3 \end{array}$
	1		, ··-	• • • • • • • • • • • • • • • • • • • •		; j	1/1	17 10
Ì	i	Wheat	; }	*****			48	2:
		1 TTT 4 P. (*	•••	*****		• • • •		6 1
		Wheat & Grain		*****	···	•	17	5 8
4	Total {	Maize		•••••			288	$\frac{5}{26}$
j	1	i		*****		•		10 15
Ì		Charri	9	33			597	2,2,
1		Charri & Moth	230	3 10 8 1,016		j		4 6
- [: Chai (CDIOE))		4 6 8	•••	1 ***	(4,597)	6,9; 4 5
1	ļ	Others	21	56			110	61
ł	į		ł ;	2 10 6		}		5 9

STATISTICS OF PRODUCE.

APPENDIX III

SHOWING THE RESULTS OF THE EXPERIMENTS MADE TO DETERMINE THE RATES OF VIELD OF THE VARIOUS CROPS AND THE RATES ADOPTED IN THE PRODUCE ESTIMATES.

APPENDIX

Abstract Statement shacing, for the principal Crops, the average rates as assumed in the produce estimates and the area

	\ !	į	15	16	17	18
	1 	!			Rabi C	ROPS R
		İ		Wngar	(Continued	.)
	Name of Assessmen	NT CIRCLE.	Dakhar an	of Rousti.	Bli	ur.
Name of Talsel,		A	By. Experiment.	Aesumed.	By Experiment.	Assumed
(Bét	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				***
Bamráin.	Lower Dhain	6		160	194	120
Ban (Upper Dhais		365 18	240	25 301 5	160
[Bét Kacha I			ĵ		
- [Bét Packa I	21.0	国等自	•••		•••
}	Bet II	•••		}		•••
4	More Dale	••.	. gsa . 5	7 160	•••	12:
Ludbigur.	Upper Dhala		198	3 210	•••	16
i	Pawadh		239	: 210	•••	160
1	Tihára		381	8 	•••	164
l	Jangal	***	213 ; 8	220	•••	16
(Bét			150	•••	11
Jugráon,	Lower Dhais	•••		150	117	110
	Upper Dhais		}	200	16	15

APPEN

Abstract Statement showing, for the principal Crops, the average rates as assumed in the produce estimates, and the area

2:22	The state of the s	,	======================================	- 	. 222 22.124
1	2	3	4	5	· · ·
				BABL CI	tors ee
					Жн
	NAME OF ARSEMMENT CIRCLE.	Niái Chi	ihi.	Khális C	hábi.
Name of Tahsil.		li Coperiment.	Per grad.	Fy Experiment.	Asi.m d.
(Bét				***
Samrala.	Lower Dhaia	393 6 3	400	287 Sire	400
20 (Upper Dhaia	753 44·8	600	617 62	500
[Bét Kacha I	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	***		
	Bét Packa I	यव स्थान			
	Bet II		•••		
E E	Lever Phase	455 ° 9 5	\$130 j	424 ¹ 54	400
Ludbann	Upper Dham	665	450	6.50	560
-1	Pawailh	641	4×0	387 387	560
	Tihára	15'-8 521	440	500	520
l	Jangal	24-5 503 317	400	698 { 17	400
	Bét	656	400		480
	Lower Dhaia	626	400	638	480
Jagrich	 Cpper Dhaia	674 34:7	440	649	520
	i	<u></u>		·	

Manage - lue figures below the has are the areas on which experiments were made,

DIX III.

of yield in seers for each class of land, as given by experiments and of experiments in acres and decimals of an acre.

		 :	ء .==-		· <u></u>				
	7	1 8	9	i	10	11	12	13	14
-			! 	<u> </u>			<u> </u>		

SULTS FOR 1879-82.

BAT.

Bet C	hábi.	Pof 🌬	Iı.	Ekf	asli.	Mixed Dol Lkfu	Mixed Dofasli and Lkfusli.		
By Experiment.	Assumed.	By Experiment.		by Experiment.	Amused.	by Arperiment.	Assed		
518	480	275 36 5	240	111	.4	2 79 26	2		
					·	•••			
						•••	••		
			820	552 4	820		***		
931	400	266 } 4 · 6	-280	月月-27月 23 ¹	240	270 11			
858	400	311	220	260 3	220	854			
385 2	400	8·1 900 6·7	240	46 295 3	220 6	10 405 4			
				i	·	1	•••		
	•••				•••	•••	/ 		
•••					•••	•••	,,,		
					•••				
151	400	287	240	205	220	233			
290	400	14 ⋅6 461 1 _: -1	240	49 288	220	7	7		
			•		7				

III .- (Continued.)

of gield in seens for each class of land, as given by experiments and of experiments in acres and decimals of an acre.

21151145455E		Articular designation of the second s						
!			20		•	i		
19	20	21	22	2.1	١.	24	2.5	20
1		<u> </u>		!	'		<u> </u>	

SULTS FOR 1879 -- 82 .- (Continued.)

			BAPLEY					
Nai C	halvi.	Risilis (Thabi.	Bét C	'háai	Dakkar nost Roma		
By Krpariment	Assurbed.	By Kaperinen	Asumal.	By Kajeriment.	Amume!.	By Experiment.	Assumed	
	•••				***	357 8	240	
***	!				•••		•••	
1-6	CHI H	5(6)			***	•••	***	
							,	
		;	स्टर्मन	न्यंत.	: 1		• • •	
	•-•		***	451	4m) :5	• •••	••	
028	400	149	400	863			120	
551		338	1 566		3		160	
579	480	;	2 560	• • • •		296	160	
613			520		i	:	160	
4			•••	•••		201	140	
233	400		4×0	.,,			• • • • • • • • • • • • • • • • • • • •	
730	4 400	896						
78.1	140	457 1	4 520 4			454	200	

APPENDIX

Abstract Statement showing, for the principal Crops, the average rates as assumed in the produce estimates and the area

	1		27	į	25	20	30
		j				RABI	CROPS R
			BARLEY	{r	ontd.)		U
	NAME OF ASSESSMY	NT CIRCLE.	F	Bhur.		Dakhar sı	nd Rousii.
Name of Tabell.			dy Kaperiment.		Assumed.	ly Experiment.	As umed.
(Bet	430.00			•••	***	***
Samrála	Lower Dhaia			3	•••	159	
8	Upper Dhais		1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	7		225 13	6 24(8
}	Bét Kacha I	सहा	17	1		***	•••
- }	Bét Packs I		•••		14.		•••
	Det II	1	• • • •			1+1	
<u>F</u>	Laws Diesa	}	•••	:	ไทย	173	\$∪(
Lucina	Upper Obale		111		120	217	5 -2 -2
-	Pawauh	*** 1		: " i	120	201	26
	Tiliára			į	120	293	
	Jangal	- !	•••		100	13 801 19	
(Bet	···	140)			
Jagraon	Lower Dhais		•••	5		192	100
Jag)	Upper Dhais	أ	142	2	150	179	8 240

III .- (Continued.)

of yield in seers for earh class of land, as given by experiments and of experiments in acres and decimals of an acre.

	31	32	33	34	<u> </u>	35	36	37	38
,	BULTS FO	R 1879-82.							

AM.		(" BE	RRA ") W1	IEAT AND G	RAM.	BARLEY &	GRAM.	
Bl:	ur.	Dakhar an	el Rousli.	Ba	шт.	Dakharand	Rough.	
By Brpeent.	Assumed,	By Experiment	Assumed.	By Experiment.	Awamed.	By Experiment.	Assumed,	
					47.5		•••	
•••	***	220		183			•••	
258 5	 5	316 27	5,00 5	130 117 } >	и	217 13	300 -9	
	•••		रू स्टामीन	.क्ष्मी संघर्न			4.	
•••	414		•••	***				
•••	•••		•••	***	•••	•••		
152	120 3	289 67	240	269 34	140			
•••	180	363 130.	320	179 62	180	245	320	
123	160	273	260	152	160	483	260	
148	5 140	6f : 812	280	231	160	236	860	
159 34	·6 140 ·7	100 208 18	240	43	160		.8 260 3	
•••				180	140			
113	120	205	220	181	140		200	
40 100	140 ·8	9 ^l 869 215	320	93 188 38	180	\$88	320	
	9	215		ł	.a i	1	1	

APPENDIX

Abstract Statement showing for the principal crops the average rates
as assumed in the produce estimates and the area

				89	40	41	42			
				RABI CROS						
				BARLEY A: (Cost	inurd).		"841			
	NAME OF AS	NAME OF ASSESSMENT CIRCLE.			out,	Dakhar and Rousli.				
Name of Tahail.	#			By Experiment.	A-sumod,	By Experiment.	Assumed.			
(Bét		W.				•••			
Samráls.	Lower Dhai	a	الأ الرفايد	121	120		•••			
a (Upper Dhair	4 .,		9511	}		***			
ſ	Bét Kacha	I	elf"	पव नग्रन			**1			
1	Bét Packa	·	***	•••]]	•••			
ı	Bét II	•••	•••				•••			
ina	Lower Dhal	s	11		•••	187	120			
Ludh ana	Upper Dba	a ,	***	244	180	\$7.4	220			
- [Pawédh	•••	•••	289	160	596	550			
i	Tihára		••	156	•	428	200			
- {	Jangal		••.	333	180	213 213 23	180			
	Bét	••	***	 						
Jagráon.	Lower Dhai	ia	•••	127	140		•••			
Jag.	Upper Dhai	ia	•••	1 284 24	200	423 23	·			

III .- (Continued.)

of yield in seers for each class of land as given by experiments and of experiments in areas and decimals of an acre.

<u> </u>							
43	44	46	46	47	48	49	60
	`	'				·	
~~~~~~							

SULTS FOR 1879-82.

Bhur.			BARLET&	'M ABAR,			
		Dofusii.		E!.	farli.	Ektasli.	
By Experiment.	Assumed,	By Axperiment.	A PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY O	by Krperiment.	Assumed.	By Experiment.	Asymmed.
•••	•••	***		79 10	200		
***		•••			***	<b></b>	
-44	•			1723 1723	•••		
				145	***		510
	•		बद्धप्रच		•••	229	200
		399	200	133	200	535	5 200
100	100	1	·	10.	·8 ···	2	.8
60 4	.5 140				•••		
•••	140				{	***	•••
87 8	120						
47	120					•••	***
		43	120	71	7 120	170	120
•••	•••			***	•••	]	444
285 ; 5;	}	•••					***.

APPENDIX

Abstract Statement showing, for the principal Crops, the average rates as assumed in the produce estimates and the area

_			51	62	53	51
	<u> </u>		<u> </u>			KHARII
		į				UNCLEAS
	NAME OF ASSESSMENT	CIBCLE.	Niái c	háhi.	Khális	Chába.
Name of Tabail.			By Experiment.	Assumed.	By Experiment.	Assumed.
	Böt					
Samrala.	Lower Dhala		170	5 200	193	200
San (	Upper Dhaia		331   6	260	259 14	220
}	Bét Kacha I		e de la la la la la la la la la la la la la	•••	.,.	***
- 1	Bét Packa I	라기()	व नुधन	•••		***
İ	Bét II		•••		,	***
	Lower Dhaia			500	}	200
Ludhidan.	Upper Dhais	**1	382 [[] 5 ·	280	257	ego G
	Pawidh		410 ⁻¹ 5	300		260
	Tihára	··· }	259 ] 5 ·	240 }	89 2	200
į	Jangal				•••	•••
(	Bét	·		200		180
Jagraon.	Lower Dhaia			200	{	180
Jag	Upper Dhaia		113	220	193	200 7

# III-(Continued.)

of yield in seers for each class of land, as given by experiments and of experiments in acres and decimals of an acre.

	_===							
ĺ	55	56	57	68	63	60	61	62
	<u>'</u>			L	·	<u> </u>	l	

CROPS, 1879- \$1.

ED COTTON.

Bet Chahi,		Lofasli.		Ekfasli,		Dakhar and Rousli.		
By Experiment.		Assumed.	By Experiment.	Assumed.	By Experiment.	Assumed.	By Experiment.	Assumed.
205	•4	200	101	160 -5	•		•••	•••
		•••	•••			***	•••	
***		•••	•••			•••	, ,,,,	•••
			,	160		160		! 
	i		161	बन् <b>ग</b> र्ग	न्यन्।142	140		}
126	·6	200	***	140	***	120		
156 1	.1	200	154 1	3 140	***	120	•••	80
•••			***	417	•••	***	70	8 100
		•••	***	•••	•••	***	1	100
			•••		***	***		68
			•••	•••	•••			•••
•••	_		21	140		•••		·
		}	***		•••	***		···
•••			•••		•••			

APPEN DIX

Abstract Statement showing, for the principal Crops, the average rates
as assumed in the produce estimates and the area

				63	64	65	66
				[	<del></del>		KHARI
						····	Ма
	NAME OF ASS	essment C: ro	ī.e.	Niái C	.á1.i	Kbália (	Chábi.
Name of Tahsil.		<b>(3)</b>		Ry Experiment.	Assumed.	By Experiment.	Assumed.
(	Bét				***		
要	Lower Dhaia	***		830	. ∮\$n	776	480
Samrile.	Upper Dhaia	•••		86.3 80.8	800	673 13	<b>6</b> 00
(	Bét Kacha I	***	7.	Contract Hardy		***	•••
	Bét Packs I	•••	स्य	यंव नवन	***		•••
1	Bét H	•••	}			•••	•••
inn.	Lower Diaga	***	• !	***	1 12   13	:	ا دارورا
Ludbünn.	rporoti a	••	••• .	1,000	~(	616 616	4.[1.1 [
	Pawadh	•••	··· .	995 1 163	80%		ĞUÖ
,	Tibára	•••	••• ;	1.224 } 23 %	880	956 1m	680
	Jangal	•••	••• }				***
 ( )	Bet	•••		1,535	720		600
Jagraon.	Lower Dhaia		••• }	179 1,129   2-7	720		600 }
Jage	Upper Dhaia			1,172	850	826   5/5	680

III .- (Continued.)

of yield in seers for each class of land, as given by experiments and of experiments in acres and decimals of an acre.

	67	68	69	70	71	72	73	74
CHO	)P# :87	9-81 - (Co	ntinned.)					
Z E.							" Joar" (5	illet.)
	Bet C	liáhi.	Dofe	ısli.	Ekf	asli.	Łkfas	sli.
	By Asperiment	Augmod	By Brperiment.	Ammod.	By Kxperiment.	Auramed.	By Experiment.	Assumed.
	866	480	<b>26</b> 9	800			•••	***
1	•••	<u> </u>					•••	•••
						•••		***
1		•••		360	ا <u>ئے۔</u> خات	300	•••	•••
ļ	469	560 - <u>3</u>	551	340	• 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1	280	219	160
ł	647	520	464	240	346	240	111	·8 160
	683 683	520 • <b>8</b>	192 1	300	4	·1 240	71 8	160
	•••	,			***	•••	•••	•••
-	•••					.,.	•••	•••
	•••	•••		***	•••		•••	•••
	•••		•••	•••		•••	•••	•••
	1,185	800	340		850	240		•••
	<b>5</b> [0]	<b>5</b> 800	880	5 280		·3 240	•••	•••
		TO		·1 •••	 ļ		***	

APPENDIX

Abstruct Statement showing, for the principal Grops, the average rates as assumed in the produce estimates and the area

			•			ای عبستا سات د
1			75	76	77	74
						RUARIF
			"Joak" (5 (Con	lti.LET).~ luded.)	" Мотв,	" " Muno,"
	NAME OF ABSESSMENT C	BCLE	Dakbar a	nd Rousli	Dakbar at	nd Rousli.
Name of Tabul.	<		By Experiment.	Assumed.	Ву Ехреппеці.	Asenned.
(	Bái					•4•
Sauréla	Lower Dhaia			,	102 15	.7 1 <b>2</b> 0
Ban	Upper Dhaia		0 = 10°		128	160 6
	Bét Kacha I	***				
1	Bét Packa I	610	네이 취실적			•••
1	Bét II	•••			•••	•••
ė	Lower Dinia	•••			50,	9 120
Ludhiana.	Upper Phais	***	146	200	131	-150
Lu	Pawadh	•••	84	200	117	6
į	Tihára	***	115	160	142	140
l	Jangal	•••		•	134	140
	Bét	•••				
Jagráon.	Lower Dhaia	•••			155	120
Jagr	Upper Dhain	•••	409	6 2	116	150

III-(Concluded.)

of yield in seers for each class of land, as given by experiments and of experiments in acres and decimals of an acre,

·							T
79	80	81	82	83	84	85	86
<u> </u>		·	<u> </u>				

CROPS, 1879-81.-(Concluded.)

de. &c. (Pt	LSES)	JOAR,""	RAJBA" sov	es with "	Мотн." ^в М	Ivsg," &c	
Bu	ar	Klatt	s ('Iráhi,	Dakhar a	nd Roush.	Bhi	ır.
By Experiment.	Assemed.	By Rxperimes 1.	2.00 2.00 3.00 3.00 3.00 3.00 3.00 3.00	ву Вхренішеці	Авспред.	By experiment.	Assumed.
					•••		•••
91	100	•••		67	3		•••
100		113	0				•••
•••	!	•••	4	7-7-1	•••		•••
		•••	सदासंब	<b>세기취</b>	•••	***	
	•••	•••			•••		
120	100	•••	•••	112	120	;··	100
120 47	110	•••		149 86	160	46	100 ·8
99	110	•••		69°		72 10,	
139	110 5	•••		192 78	180		***
272	4110	• •		219 206	160	115 52	120
			!	•••			•••
68	109	•••		112	120	•••	100
145	-5 120 -6	•••	•••	321 110	180	157 17	120

### IV.- (Continued.)

the average of prices during the last twenty years, and the value of the share to ordinarily taken by a proprietor from his tenants.

To reserve											
34	35	36	37	39	39	40	40	42	43	41,	45
	<u></u>	<u>:                                    </u>	!!		<u>'</u>			<u> </u>			

#### HARVEST. POTER HALF ASSES CROPS ON WHICH CASH BUNTS ARE PAID. RELIVATE. I Class. II Class. On secount of harrowis. seet estimate. DRTAIL. Charri (fodder.) Vegetables Sugarcane Amount Indigo. Others. Gunra. Total, Helf ... ... 87 15,350 2,153 27,818 Rabi ... 1,48,093 287 703 9,256 Area lls. Rε. Rs. 3 to 5 Kharif 1,06,039 6 to 12 Average rent 9,3 (\$ 1,88,698) D1,782 Total .. 1.10,437 2,510 7.850 £ 2,17,20 Total cent .., Pate ... 3,18,920 45,8350 2,9631 ... 8,960 Area 336 Re Rs. RsRs. 7 to 14 3 to 6 2 to 4 3 to 4 Kliarif 2,67,124 1 to 1 1104 ... Average rent 102, 2,01,730, 1,00,863, Total ... 47,511; 1,886 186 1,43,160 8,785 5.86,044 Potal rent ••• 133 8,690 1,514 463 10,880} Rabi ... ! 2,07,614 51 Re. Re. Re. 3 to 4 2 to 4 Kbati! 93,349 Average rent 4,803 529 3,7081 ... 143 2 4021 .. fricT 3,01,183 Total rent 408 16 13,267 635 250 69,225 5,199 463 9,317 91,418 Rabi ... 6,74,827 Area Charif 5,56,532 Average rout 9,785] 3,90,231 1,95,952 Total ... 12,31,359 Total rent ... { 1,58,858 | 4,872 | 1,049 | 2,01,026 15,145 ...

APPEN

Statement showing the acreage and estimated yield of each crop, the value of this at which Government would be entitled at half the rent

1	3	3	4	5	6	7	8	9	10	n
										HABI
							CROPS	'T WE	CF KIN	
	D	I Class.	<del></del> i					<del></del>	<del></del> -	
Name of Tabefi.	DETAIL.	Wheat.	Barloy.	Oran,	When t and Gram.	Barley and Gram.	Masar.	Barley and Mater.	Sarron,	Masar and Pess.
Poles	(seers per rupee)	30	on of the second	9	30	89	37	7.5	2	
Samrála.	Area	48,557 4,07,556	5,5;" 53,2%	4,132 28,615	14,70% 1,02,996	4.358 26.385	319. 1,602	395 1,975	606 5,214	
- E	Value of the	5,43,408	54,235	\$2,702	1,24,773	\$3,243	1,731	2.076	10,430	
Price	(seers per rapes)	30	40 to 43	35 to 42	28 to to	37 to 45	30 to 35			38 to 40
Taihigns.	Area Gross producs	61,024		13,045 71,085	77,991 6,03,476	81,178 1,95,490		1,745 8,987	6,283 30,233	289 1,839
Lad	Value of the	8,63,018	87,939	75,073	5,96,281	1,82,969		9,711	65,211	1,918
Price	(scace pad suppae)	31		38	B5	40	40		32	
ا ہے	Area	17,16	4,032	13,517	P>,7.4	18,13			127	1, 8:
Jagrana	Gross produce	1,62,201	31 844	50,45	5,85,538	1,29,60		•	726	3,243
·	Value of the	2,03,011	31,844	63,106	6,69,186	1,23,600			1,319	3,24
Total.		1,24,712	,		1,91,495 11,92,00s	1	1 1	2,140 10,982	7,106 86,173	i
<u>.</u> [	Value of the	14,14,437	1,84,018	1,61,8kc	13,94,240	1;49,815	1,731	11,798	66,960	5,18

DIX IV.

the average of prices during the last twenty years, and the value of the share to ordinarily taken by a proprietor from his tenants.

13	13	14	15	78	17	19	19	20	21	22
HARVE	et.					· · · · · · · · ·				
ARB PATT	),					CROPS	ON MRIC	R CASE	RENTS	
Class.										
Gram and Saron.	Methe and Benji (Green fodder.)	Others.	Total.	Half seset estimate,	DETAIL.	Tobacco.	Vegotables.	Others.	Total	Balf geset estimate.
<b></b>	•••	<b>≜</b> 0				- 113			414	445
		180 749		t+4	årea Åverage rent	195 Rs. 8	1,208 Ra 5	208 Re. S to 5	1,600	***
30 to 35	,	40 to 60		1,44,143	Total rent	975	6,040	 	7,891	3,945
492 2,348	<b>2</b> ,315	41#			Average rent	691 Re. 2 to 5	9,729 Hr. 2 to 4	226 Re. 2 to 4	4,648	
<b>2,68</b> 3		390	1,69,029	3,11,070	Total rent	8,045	11,844	g.18	15,697	7,850
		92		•••		-				٠٠,
	1,606 	3 15	1,54,486		Area	530 Ira 4	1,234 R*.		1,751	#17   14
	•	27	10,90,338	3,04,306	Total rent	2,120	4,594	***	7,018	3,508
492 2,349	3,924	216 1,18t	1		Area	1,416	6,161	43:	8,0.9	
2,683		1,188	35,88,886	6,59,534	Total rent	6,1,10	22,780	1,63	30,604	15,303

### APPENDIX

Statement showing the acreage and estimated yield of each crop, the value of this at which Government would be entitled at half the rest

	بو پیدار مربیها در د	-							5.5.5		
	นา	2+	25	्रवी	27	24		20	ál	5.2	383
	į										KHALIF
	* -			. 0	ROPS ON	parcus is	SO VENT	IS ARR PA	ID,		
		IL	ınısı.			11 C	LASS.				
Same of Tabell.	DETAIL.	Naize.	Cotton,	Bien (Dlain).	over and Bajes (mil-	seel, Rung, &c. (pul-	Mash (pulse).	Mach, Mung with Jens	Oppose,	Sea.	lig farset entimate
Princ	lesser besimber		3.5		; i		·	35.	; <del>1</del> +1		
٠(	Area	15,211	9,700	1,03.	2.0	18,103		9,767	395	65,802	
18	Gross produce	2,14,136	45,551	6,212	12,446	64,977		37,852	1,817		
Banrals	Value of the	2,57,674	1,83,204	15,550	13,87	62,826	***	43,260	1,817	5,67,191	1,04,257
Price	(seers per rupes)	32 to 35	10 to 12	16	36 to 45	35 to 40	,,,	35 to 42	40		
<b>≟</b> {	Area	25,160	8,785	490	21,276	E 29,241	***	20,6.6	<i>6</i> ×	1.07,646	
iga /	Gross produce	3,74,262	48,0 0	2,:9	1,00,735	88,350		76,830	17-		
Ladbigas.	Value of the	4,58,592	1,81,515	5,97¢	99,21.	9-,5-0		75,116	36 t	:,17,692	1 66,256
I twe i	everativa (upoe)	24.	:_	3	<b>1</b> *	3-	25				
<u> </u>	Anea	10,530	1,000	1744	Hite	pt con	6,504	1.1.		74,581	
Jagraon.	Gross produce	1,96,712	9,904	6,131	69,525	$1, t \in \mathbb{N}_{0}$	22,135		٠٠. ا		}
*	Value of the	2,15,58,-	10,051	8,186	67,525	1 75,551	25,614			5,14,460	90,96
, (	Area	59,072	.8,520	i	39.336	92,367	5,850	30,727	456	2,39,509	
Testal.	Gross produce	7,85,11	95,635	11.743	1,83,000	2,16,169	22,478	1,14,635	142	-1.	
	Value of the	9,42,836	3,80,703	169,63	1,62,915	3,34,950	25,411	1,19,376	2,198	20,19,318	0,61,450

## STATISTICS OF PRODUCE.—(Continued.)

## APPENDIX IV.

PRODUCE AND HALF-ASSET ESTIMATE.

सन्त्रपंत्र ज्ञयन

APPEN

Statement showing the acreage and estimated yield of each crop, the value of this at which Government would be entitled at half the rent

1	3	3	4	5	6	7	8	9	10	n
										HABI
							CROPS	'T WE	CF KIN	
	D	I Class.	<del></del> i					<del></del>	<del></del> -	
Name of Tabefi.	DETAIL.	Wheat.	Barloy.	Oran,	When t and Gram.	Barley and Gram.	Masar.	Barley and Mater.	Sarron,	Masar and Pess.
Poles	(seers per rupee)	30	on of the second	9	30	89	37	7.5	2	
Samrála.	Area	48,557 4,07,556	5,5;" 53,2%	4,132 28,615	14,70% 1,02,996	4.358 26.385	319. 1,602	395 1,975	606 5,214	
- E	Value of the	5,43,408	54,235	\$2,702	1,24,773	\$3,243	1,731	2.076	10,430	
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Taihigns.	Area Gross producs	61,024		13,045 71,085	77,991 6,03,476	81,178 1,95,490		1,745 8,987	6,283 30,233	289 1,839
Lad	Value of the	8,63,018	87,939	75,073	5,96,281	1,82,969		9,711	65,211	1,918
Price	(scace pad suppae)	31		38	B5	40	40		32	
ا ہے	Area	17,16	4,032	13,517	P>,7.4	18,13			127	1, 8:
Jagrana	Gross produce	1,62,201	31 844	50,45	5,85,538	1,29,60		•	726	3,243
·	Value of the	2,03,011	31,844	63,106	6,69,186	1,23,600			1,319	3,24
Total.		1,24,712	,		1,91,495 11,92,00s	1	1 1	2,140 10,982	7,106 86,173	i
<u>.</u> [	Value of the	14,14,437	1,84,018	1,61,8kc	13,94,240	1;49,815	1,731	11,798	66,960	5,18

DIX IV.

the average of prices during the last twenty years, and the value of the share to ordinarily taken by a proprietor from his tenants.

13	13	14	15	78	17	19	19	20	21	22
HARVE	et.					· · · · · · · · ·				
ARB PATT	),					CROPS	ON MRIC	R CASE	RENTS	
Class.										
Gram and Saron.	Methe and Benji (Green fodder.)	Others.	Total.	Half seset estimate,	DETAIL.	Tobacco.	Vegotables.	Others.	Total	Balf geset estimate.
<b></b>	•••	<b>≜</b> 0				- 113			414	445
		180 749		t+4	årea Åverage rent	195 Rs. 8	1,208 Ra 5	208 Re. S to 5	1,600	***
30 to 35	,	40 to 60		1,44,143	Total rent	975	6,040	 	7,891	3,945
492 2,348	<b>2</b> ,315	41#			Average rent	691 Re. 2 to 5	9,729 Hr. 2 to 4	226 Re. 2 to 4	4,648	
<b>2,68</b> 3		390	1,69,029	3,11,070	Total rent	8,045	11,844	g.18	15,697	7,850
		92		•••		-				٠٠,
	1,606 	3 15	1,54,486		Area	530 Ira 4	1,234 R*.		1,751	#17   14
	•	27	10,90,338	3,04,306	Total rent	2,120	4,594	***	7,018	3,508
492 2,349	3,924	216 1,18t	1		Area	1,416	6,161	43:	8,0.9	
2,683		1,188	35,88,886	6,59,534	Total rent	6,1,10	22,780	1,63	30,604	15,303

### APPENDIX

Statement showing the acreage and estimated yield of each crop, the value of this at which Government would be entitled at half the rest

	بو پیدار مربیها در د	-							5.5.5		
	นา	2+	25	्रवी	27	24		20	ál	5.2	383
	į										KHALIF
	* -			. 0	ROPS ON	parcus is	SO VENT	IS ARR PA	ID,		
		IL	ınısı.			11 C	LASS.				
Same of Tabell.	DETAIL.	Naize.	Cotton,	Bien (Dlain).	over and Bajes (mil-	seel, Rung, &c. (pul-	Mash (pulse).	Mach, Mung with Jens	Oppose,	Sea.	lig farset entimate
Princ	lesser besimber		3.5		; i		·	35.	; <del>1</del> +1		
٠(	Area	15,211	9,700	1,03.	2.0	18,103		9,767	395	65,802	
18	Gross produce	2,14,136	45,551	6,212	12,446	64,977		37,852	1,817		
Banrals	Value of the	2,57,674	1,83,204	15,550	13,87	62,826	***	43,260	1,817	5,67,191	1,04,257
Price	(seers per rupes)	32 to 35	10 to 12	16	36 to 45	35 to 40	,,,	35 to 42	40		
<b>≟</b> {	Area	25,160	8,785	490	21,276	E 29,241	***	20,6.6	<i>6</i> ×	1.07,646	
iga /	Gross produce	3,74,262	48,0 0	2,:9	1,00,735	88,350		76,830	17-		
Ladbigas.	Value of the	4,58,592	1,81,515	5,97¢	99,21.	9-,5-0		75,116	36 t	:,17,692	1 66,256
I twe i	everativa (upoe)	24.	:_	3	<b>1</b> *	3-	25				
<u> </u>	Anea	10,530	1,000	1744	Hite	pt con	6,504	1.1.		74,581	
Jagraon.	Gross produce	1,96,712	9,904	6,131	69,525	$1, t \in \mathbb{N}_{0}$	22,135		٠٠. ا		}
*	Value of the	2,15,58,-	10,051	8,186	67,525	1 75,551	25,614			5,14,460	90,96
, (	Area	59,072	.8,520	i	39.336	92,367	5,850	30,727	456	2,39,509	
Testal.	Gross produce	7,85,11	95,635	11.743	1,83,000	2,16,169	22,478	1,14,635	142	-1.	
	Value of the	9,42,836	3,80,703	169,63	1,62,915	3,34,950	25,411	1,19,376	2,198	20,19,318	0,61,450

### IV.- (Continued.)

the average of prices during the last twenty years, and the value of the share to ordinarily taken by a proprietor from his tenants.

To reserve											
34	35	36	37	39	39	40	40	42	43	41,	45
	<u></u>	<u>:                                    </u>	!!		<u>'</u>			<u> </u>			

#### HARVEST. POTER HALF ASSES CROPS ON WHICH CASH BUNTS ARE PAID. RELIVATE. I Class. II Class. On secount of harrowis. seet estimate. DRTAIL. Charri (fodder.) Vegetables Sugarcane Amount Indigo. Others. Gunra. Total, Helf ... ... 87 15,350 2,153 27,818 Rabi ... 1,48,093 287 703 9,256 Area lls. Rε. Rs. 3 to 5 Kharif 1,06,039 6 to 12 Average rent 9,3 (\$ 1,88,698) D1,782 Total .. 1.10,437 2,510 7.850 £ 2,17,20 Total cent .., Pate ... 3,18,920 45,8350 2,9631 ... 8,960 Area 336 Re Rs. RsRs. 7 to 14 3 to 6 2 to 4 3 to 4 Kliarif 2,67,124 1 to 1 1104 ... Average rent 102, 2,01,730, 1,00,863, Total ... 47,511; 1,886 186 1,43,160 8,785 5.86,044 Potal rent ••• 133 8,690 1,514 463 10,880} Rabi ... ! 2,07,614 51 Re. Re. Re. 3 to 4 2 to 4 Kbati! 93,349 Average rent 4,803 529 3,7081 ... 143 2 4021 .. fricT 3,01,183 Total rent 408 16 13,267 635 250 69,225 5,199 463 9,317 91,418 Rabi ... 6,74,827 Area Charif 5,56,532 Average rout 9,785] 3,90,231 1,95,952 Total ... 12,31,359 Total rent ... { 1,58,858 | 4,872 | 1,049 | 2,01,026 15,145 ...

# STATISTICS OF TRANSFER OF LAND.

APPENDIX Va.

SALES SINCE THE REGULAR SETTLEMENT OF 1850.

(From the Patwaris' papers).

APPEN

### Statement showing the sales of land as ascertained to have

1	2	3	4	5	в	7	8	8	10	11
			To A6		URLSTA	··P Ths			URISTS (1).LAGE	
Serial number.	Name of takeil.	PETAIL.	No. of holdings.	Area in acros.	Arbessment.	Price.	No. of hollings.	Area in acres.	Assessment.	Price
	1	Total transactions	365	1,615	2,655	43,176	60	311	482	9,645
, {	514	Average of assessment per uere			1-10-1				1-8-10	
΄, ζ	cam bia	Average price per acre				27		;		31
	1	Average price per rupee of revenue				16				20
	ſ	Total transaction	689	8,017	3,051	1,00.907	264	2,120	2,759	75,004
(	udbigna.	Average of assessment per acre			1-5-8	D		- 	i-4-10	***
- 28		Average price per acre.	***	141		33				35
		Average price per rupce of revenue		-21 Ide	F143	25				27
-	-	Total transaction	507	9,220	5,15	91,4:7	82	1,128	1,193	15,931
. (	( <del>-</del> <del>[</del> ]	Average of assessment por acre			1.1.6				n-15-8	
a {	Mg (pret)	Average price per acre				41			į	11
		Average price per ruper of revenue				39				11
-		Total transaction	1.632	6.852	9,126	2,35,490	406	3,864	4,641	1,00,480
. 1	ا اخ	Average of assessment per acre			1-5-4				1.3.3	
4	{  jay	Averane price per acre.		٠,		34				26
		Average price per rupee of revenue				26				22

DIX Va .  $taken\ place\ since\ the\ Regular\ Settlement\ (1850-53).$ 

19	13	14	15	16	17	18	19	20	21
Т	о отив:	e Pres	o#5.		To	TAL.		al area ner acre	
No of holemas.	Area in acres.	Assessment.	Price.	No othoblings.	Aren in acres.	Assessment.	Price.	Percentuge of total nrea with incidence per acre of expired settlemont.	REMARES,
495	1,896	2,412	45,714	920	3,822	5,549	9,	2	
•••		1-4-4		5		1-7-3		1-18-10	
•••			24				25		
			19				18	i	
App	2,349	3.320	1 29.077	1,400	7 456	10,130	3.04,253	"	
		1-6.7				1-5-8	1/2	1-5 11	
•••			ðís		होंग	ग्वं ः	<u>.</u> 41	•••	
			ន១				80		
229	1,468	1,624	48,724	878	5,111	5,447	1,55,962	2	The averages in Column 1 are low, because the prin
		1-1-9				1-1-1		1-2-10	i CIDALILCADIS & Whole vi
***			83				31	)	Settlement at a nomin- price,
•••			30	   			29		
1,224	5,713	7,353	2 22.815	3,261	16 419	21,126	5,63,786	2	
		1-5-6				1-4-7	ļ	1.6.8	
			39				3‡	"	
***			30				26		

# STATISTICS OF TRANSFER OF LAND.

## APPENDIX VA.

SHOWING MORTGAGES OF LAND AT THE TIME OF THE REGULAR SETTLEMENT AND NOW ACCORDING TO THE PATWARIS' PAPERS.

बस्यम्ब स्थल

APPEN Statement showing the land Mortgaged at the

1	2	3	4	5	6	7
			. F	ORMER	MORTGAGE	s.
Serial number	Name of talisil.	DETAIL.	No. of boldings.	Δετεδ.	Аssеныпепt.	M. rigage mn y.
		Total transactions		651	751	1.280
1	Samrála.	llate of assessment per acre		•••	159	•••
	Sam	Average price per acre		•	•••	8
		Average price per rupce of revenue		•••		6
		Total transactions	- 118	1.442	,235	13,079
	Kun.	Rate of assessment per acre	=*	•••	0 13 8	
2	Ludhiána.	Average price per acre	FUE		•••	1
_	7	Average price per rupes of revenue			# U b	11
_	j	Total transactions	89	497	516	1,734
ļ	on.	Rate of assessment per sere	:	***	108	
3	Jagráon.	Average price per acre		***	• • • •	3
		Average price per rupee of ferenue			*** *	3
	-	Total transactions	302	2,400	2,502	19,093
	-:	Rate of assessment per acre		<b></b> .	1 0 1	
4	Total	Average price per acre				8
		Average price per supee of revenue		•••	•••	8

DIX Vb. date of the former and present Settlement.

8	9	10	11	12	13	14	15
		PF	RESENT MO	REGACES			
		Mon	TG HIPS WIT	H Posassic	N.		
Mortgag	ed to Agri	ralturists of	the vulage.	Mortgaged	to Agricul	turists of othe	er villages.
No. of hold ings.	<b>\$</b> cres	Assessment.	Morigage menely,	No. of heid-	Åeres,	Анбеватен t.	Мандаде топсу.
1,233	3,681	6,652	91,108	328	865	1,503	22,988
		1 12 10			•••	r ri 10	•••
•••	•••	**4	25				27
***	•••	•••		51.Jk ==	••.	:	15
3,514	11.952	13.984	41,450	31 Wh	3,250	4,108	1,10,133
***	4+1	1 2 4	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s		•••	148	•••
	•••	•••	a = 341	FIRE	***	***	31
***	•		29	***	24.6	•••	26
4,267	10,598	11,583	3,82,701	1,054	4,607	5,107	1,42,303
***	•••	1 1 6				I 1 9	
•••			36			•••	31
***	***		33			•••	28
6,013	26,211	31,919	8,75,202	2,!46	.7215	10,808	2,75,424
		1 3 6			* **	1 3 10	
•••	**1	***	33	•••	•••	•••	32
*.*		•••	27	:			25

[ lxiv ]

APPENDIX
Statement showing the land Mortgaged at the

			16	17	19	19			
						PRESENT			
		Detail.	Mortgages with						
4	1,0		Mortgaged to other persons.						
Serial number.	Name of taheil,		No of hold- inge.	Acres.	Assessment.	Morigage money.			
		Total transactions	1,719	5,656	10,023	1,44,730			
1	réla.	Rate of assessment per acre			1 12 3				
•	Samréla.	Average price per acre		•••	***	26			
	_ {	Average price per rupee of revenue		•••	***	14			
		Total transactions	3,045	10,748	13,912	3,19,880			
2	Ludbiána.	Rate of assessment per acre	国第	•••	1 4 9				
-	Lind	Average price per scre	***		***	30			
		Average price per rupee of revenue	111			23			
	ĺ	Total transactions	2,558	0,362	9.658	2,98,443			
	á')n.	Rate of assessment per acre		i	1 0 6				
3	Jagráon	Average price per acre	***		•••	32			
		Average price per rupee of revenue	•••	•••	***	31			
	ſ	Total transactions	7,332	25,785	33,593	7,63,053			
1		Rate of assessment per acre	•••		1 4 10	•••			
4	Total.	Average price per acre			•••	26			
	ļ	Average price per rupes of nevenue	•••		•••	23			

# STATISTICS OF TRANSFER OF LAND, -(Contd.)

APPENDIX Vo.

STATISTICS DERIVED FROM THE RECORDS OF REGISTRATION.

सन्त्रपंत्र नवने

[ lxv ]

Vb.—(Continued.)

date of the former and present Settlement .- (Continued)

20	21	22	23	21	25	26	27			
IORTGAC	GES — (Con	timaed.)		<del></del>						
POSESSION.	—(Continu	ed.)		Мовт	GAGRA F11	HOUT POSSESS	110 <b>5</b> .			
	Te	tal,		Mortgaged to Agriculturists of the village.						
No. of hold- ings.	Acres.	Assorment.	Mertgege money.	No. of hold- ings.	Acres.	Asseem: 'Dt.	Morigage Boney.			
3,279	10,231	18,178	2,58,827	2	4	5	121			
		1 12 5				1 4 0	•••			
•••			25				30			
··· :		•••				.,.	24			
7,523	27,950	31,791	E.31,463	136	242	750	2 (433			
;	•••	1 3 7	त <b>े</b> श्रेपव	'নত ন		0:5 5	•••			
•••	•	•••	32	,.,	•••	***	26			
4.1	•		26			101	27			
7,589	27,567	26,347	8,23,450	77	463	491	11,188			
•••		1 1 2	•••			1 1 0	***			
•••			31		•••	•••	24			
• • •		•••	31			•••	23			
15,491	60,748	75.319	15,15,749	218	1.254	1 255	31,742			
	ļ ···	141	, ··•		***	1 0 0	•••			
• • • •		***	3:2			   <b></b> 	25			
•••	;		25	, ••• i	•••	544	25			

APPENDIX
Statement showing the land Mortgaged at the

			28	29	30	31				
			PRESENT							
		DETAIL.	Мовтолска магнест							
e.	<u>#</u>		Mortgaged to Agriculturists of other village							
Serial number,	Name of tabeil		No. of hold- ings.	Acres.	Antesment.	Mortgage money.				
	1	Total transactions		21	34	390				
1	Samrels,	Rate of assessment per nere			1 6 8	•••				
*	Sam	Average price per acre		*1*		13				
	l	Average price per rupce of revenue		•••	***	11				
	ſ	Total transactions	92	676	818	20,142				
	isna.	Rate of assessment per acre		•••	1 3 4	•••				
2	Ludhiána.	Average price per acre	F 174		,	30				
	I	Average price per rupes of revenue			***	25				
İ	1	Total transactions	61	353	361	6,796				
. !	îon.	Rate of assessment per noic	•••	' '' '	10%					
3	Jagráon. 	Average price per acre	***		•-	19 [[]				
	<u>.</u>	Average price per rupee of revenue			•••	19				
	-	Total transactions	157	1,053	1,216	27,328				
	<u> </u>	Rate of assessment per acre	•••	•••	1 2 6	•••				
4	Total	Average price per acre		***	•••	25				
		Average price per rupee of revenue	•••	•••		22				

Vb .-- (Continued.)

date of the former and present Settlement .- (Continued.)

32	83	84	38	28	37	38	89

#### MORTGAGES .- (Continued.)

#### POSSESSION.-(Continued.)

M	ortgaged t	o other person	n <b>s</b> .		To	tai.	
No. of hold- ings.	Acres.	Alexagnent.	Mongage money	No. of hold-	Acros.	Assessment.	Morigage grouvy.
13	166	269	3,411	) 19:	194	308	3,923
	•4=	1 *9 11			441	195	•••
•••		•••	21	277			20
		•••	.3			•••	13
698	2,987	4,415	95,527	920	4,450	6,989	1 36,102
		178	Park S		,	1 5 6	•••
•••		***	라고 <b>3</b> 일	-134 -134	,,,	•••	51
	•••	•••	22		***	•••	32
312	1,612	1,578	44,178	450	2,428	2,433	62,162
		0 15 8		•••		101	•••
·		•••	27	•••	•••	r. 111	26
	·	***	28		•••	***	26
1,023	4,765	6,262	1,43,116	1,398	7,072	8,730	2,02.186
		1 11 11			*1*	1 3 9	•••
•••			30				: 29 :
			22	•••			! 23

[ lxviii ]

## APPENDIX Vb .- (Concluded.)

Statement showing the land Mortgaged at the date of the former and present Settlement.—Concluded.

	<del></del>		<b>4</b> 0	41	42	43	44
			PRESE	NT MORI	OAGES (C	oncluded)	
		Detail.		GRANT	T-TAL.		Arra.
Rerief number.	Name of takeil.		No. of holdings.	Acres.	Artenabel.	Marigege mnney.	Percentaga of total area.
į	·	Total transactions Rate of assessment	3,294	10.425	18,486 1 10 - 9	2,32.749	c l
1	Samud	Average price per		4	1 13 3	 23	
	ا تق	Average price per rupee of revenue				14	
	<u></u>	Total transactions	6,252	30,400	87,78C	9,67,665	7
2	Ludbisna	per acre Average price per	403.00	N-7	1 3 11	32	•••
	I.	Average price per rupee of revenue	•••			3:1	
		Total transactions Rate of assessment	9.000	U 1900	29 757	0.85,612	12
3	Jagrahi.	per neue. Average piles per			1 i 1	: :	
	Ja	nere		••	***	33 81	•••
	ر ا	rupee of revenue				81	
	ſ	Total transactions Rate of assessment	19,889	67,820		21,15, <b>9</b> 26	8
4	Total.	Average price [er]		•••	1 4 1	31	**
-	L L	Average price per rupce of revenue		••·	•••	25	
	_ `;		-				!

[ lxx ]

## APPENDIX Vo.

Statement showing the sales and mort jages of lands registered in District Ludhiana arranged in periods of five years.

-		<del></del>	=	. دورون مناصب مساحد.	======================================	= :	rods of fr	ce years.				
ĺ	sil.		į	   — —-	SALH.			GAGES WIT: 53Esslon.	E		AGES WIT Sabbaton	HOLT
Serial No.	Name of tabail.	Tears.		Arca,	Price	Average por	Area.	l Ki	Average per	Area.	Meritage money.	Average per
		1856 1867 1858 1859 1860	***	13	72	 5 	 76  13	175	2 		300 60	  8 9
1	!	Total, 1856 -	-60	13	72	5	105	624	C	4.5	300	8
		1861 1862 1863 1864 1865		41 106 101 68 71	1855 1855	5 15 15	105 113 136 133 398	1,317 1,808 2,092	12 13, 15.		3 050	3 9
		Total, 1861-	-65	393	7087	18	887	10,018	12	552	4,752	9
Samrala.		1866 1867 1868 1869 1870		262 225 385 538 436	14,048	14 22 24 26 22	0 1 666 601 1,091 1 1,210 1 1,342	10,783 10,501 18,134; 24,675 28,584	20 22	89 75 11 95 30	1,584 1,684 150 2,597 826	18 20 14 27 28
100		1806	7 j	1,946	41,32S	23	4.910	22,975	19	300	6,681	23
		1871 1872 1873 1874 1875			7.012, 12,839, 11,144, 9,104, 9,408	37 25 35 40 21	760 816 850 784 1,141	21,609, 22,527 21,235, 24,690, 31,696,	30 37 33 31 28	10   2   6   16   64	400 400 110 1,100 1,515	40 20 20 69 24
	- 	Total, 1871	-75	1,714	52,606	37	4,277	1,22,050	29	98	3,174	33
	1!	1876 19 <b>77</b> 1878 1879 1880		259 340	9.816 13,399 8,061 13,066 10,309	29, 32, 31, 31, 41,	1,150, 1,279 927' 1,222' 1,089'	28,893 38,411 28,773 29,417 32,237	25 28 31 24 30	23 114 58	605 1,015 1,365	3 9 24  58
		Total. 1876 -	40	1,612	54.591	31	5,667	15,5,732	27	198	3,220	11
		Total tabsil, 1856—1	80	5,7×	L,66 503	28	15,846	3,81,396	21	1,193	18,192,	15

[ lxxi ]

## APPENDIX Vc .- (Continued.)

Statement showing the sales and mortgages of land registered in District Ludhiana arranged in periods of five years.—(Continued.)

	ą.		Salu.				GAGES WIT	MORTGAGES WITHOUT POSSESSION.			
Serial No.	Name of tehad.	Years.	Yearn.		Average per	Δrea.	Mortgage monry.	Average per	Are.	Mortgage money.	Average per
		1852 1850 1854 1855	267	2,866	11	104 65 105 120	255 300	5	•••	111	
	ĺ	Total, 185255	267	2,866	.866 11	976	4,627	12			
		1856 1857 1858 1859 1860	182			90 174	405 234	3 8 8 7	62  9	170	•••
		Total, 1856-60	188	2,159		1,012	5,893	;	79	375	5
Ladhiána.	7	1861 1862 1863 1864 1865	85 322 137 48 174	4,262 1,641 1,626	21 13 12 34 16	0 - 62s 95s 1,12a 539 685	71,48C 23,249 7,195	12 21 13 17	103 76 123 85 171	361 1,025 762	5 5 8 9
Lad		Total, 1861-65	746	11,666	16	3,933	68,065	15	558	4,455	7
-		1866 1867 1868 1869 1870	323	5,512 7,941 15,469 12,558 20,411	34 40 46 39 38	1,295 1,576 1,796 2,412 1,566	25,957 32,697 43,942 70,869 59,323	20 5 24 36 38		4,048 4,219 11,061 63,5:0 6,5:02	12 8 16 15
		Total. 1866—70	1,557	61,894	4.	8,631	2,32,788	27	2,7117	39,320	11
		1871 1872 1873 1874 1875	552 484 41 <i>6</i> :	59.266 26.235 25.423 20,718 25,642	48 48 53 50 82	1,3:3; 3,261 3,531, 2,160 1,106	26 60%; 1,15,637 1,04,497 86,923 50,958;	25 25 20 40 46	334 326 330 153( 138)	9,495 9,615 9,231 6,525 4,655	28 28 28 43 39
1		Total, 1871-75	<b></b>	16,7,312	71	'. {	3,84,533	9ā	1,281		30

Now. — I have been unable to collect the details recorded in the offices of the Sardars of Maloud, who have been subregistrars since 1866. Our figures may therefore be taken as not including Maloud Pargans.

[ lxxii ]

## APPENDIX Vc .- (Continued.)

Statement showing the sales and mortgages of land registered in District Ludhiána arranged in periode of five years.—(Continued.)

			ungen e	porto			(Conti				-	
İ	=		SALE.			Morto. Posi	aora Will Ession.	1	MORTGAGES WITHOUT POSSESSION.			
Serial No.	Name of tabil.	Years.	Area.	Pico. Average per		/ rea.	Morleage	Ачетиде рст	Area.	Merignge morey.	Average per	
	Concluded.)	1876 1877 1878 1879 1880	272 386 683	18,549 7,010 26,889 47,154 47,868	61 26 70 69 54		42,801, 36,589, 54,174, 62,778, 81,568	39 36 40 42 45	537	7.987 7,387 8,010 20.764 15,250	26 33 33 39 35	
2		Total, 1876—80	2.521	14,7,479	58	6,247	25,7,966	41	1,703	59,397	35	
	Ludhiana	Total talisil, 1852—80	7,506	3,83,367	5:	31,583	0.43,506	30	3,411	14 2,477	22	
		1856 1857 1858 1859 1860	63 	300	5	  39	360	15		***	*** 14* 11* 11* 11*	
		Total, 1856—60	63	300	5	39	360	9				
		1861 1862 1863 1864 1865	57 62 185 171 1-9	1,095 1,776 2,906	1 18 10 17	335 3,182	3,314 4,653 7,741	12 13	218 178 225		9 5 3 9	
•	aon.	Total, 1861—65	584	8,14.	14	4.353	49,168	11	1.162	14.239	13	
3	Jagráon	1866 1867 1868 1869 1870	715 85 135 22: 152	3,78 5,302 10,207	4 39 4t	1,452 2,108 2,791	31 571 44,267 70,822	17	1,747 1,491 547	12,881 27,477 24,024 10,468 12,517	20 84	
		Total. 186670	1,308	33,326	28	10,728	2,56,062	2	5.298	87,325	16	
		1871 1872 1873 1874	916		110	2,623 2,490 2,145	1,15,789 48,550 66,097	2. 2. 3.	579 803 5 9	19,141 20,831 13,129 10,759	40 20 20 19	
_		Total, 1871—75	212	68,151	56	2,110	67,950	-	-	79,302	21	

[ laxiii ]

## APPENDIX Vc .- (Concluded.)

Statement showing the sales and mortgages of land registered in District Ludhiana arranged in periods of fice years. - Concluded.)

	ä	1	Sale			FACINE WILL NEWTON	t i	MORIGAGES WITHOUT POSSESSION.		
rial No.	Naran of taball.	Years	Area.	Price.	A S	Mertgege Beney.	Average per	Ares.	Mortgege moves.	Average per
	mrludei.)	1876 1877 1878 1679 1840	899 501 994	2 (392) 4: 18(037) 4: 25(063 5: 41(745) 4: 42(288 6)	5 1.848 2 2,454 2 4 937	59,335 87,854 1,89,779	24 31 24	785 853 404	16,049 15,937 22,276 11 097 2 105	29 9 24 
3	Jagráon,—(Ouncludei.)	Total, 1876—80		1,48,426 5 41,822 7	to de		39		67.493 30 090	24
_	Jagi	7'tal talis il 1856—81		3,00,467 4	1 1 1 1 1	14.49.432			2,78,419	
	Total destrict.	1852—81	20,338	8,59,417 4	2 92,720	27,94,631	3	20,976	1,30,083	21

Nors withoutes of this return will not of course agree with that of the preceding, because the same land may appear several times in this as often as it has changed bands.

# APPENDIX VI.

SHOWING THE DISTRIBUTION OF LAND AMONGST THE AGRICULTURAL TRIBES.

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APPENDIX VI. Showing the distribution of Land amongst the Agricultural tribes.

					1 9 40	, , ,		( 21 14														
=	ĺ		GRAFD TOTAL	Resente.	1,93,630	5,11,913	01.78,810 TI	8,67,243														
: 2			O E A W	A16A.	1,31,124	2,02,056	1,94,82	65,158 52,214 6,18,007														
23				Lesebbe.	185	26,342	8 4	iz,i														
, 8			Нлисе	Å16E.	12,61:	1.00 mg	1 1 1	8.1.2														
22			-	Revenue.	1,18,512 1,50,649 1,14,512 1,90,664, 12,612 14,591 1,31,124 1,93,630	6,617 11,437 15,127 1,40,046 1,69,13* 2,61,222, 2,65,45* 37,828 26,342 2,02,066 3,11,413	1,18,883,1,11,556,1,93,052,1,68,970,14,794,13,983,1,94,89,45,45,45,45,45,45,45,45,45,45,45,45,45,	9,35,739														
=			Total	,291A	1,14,51:	2,51,225	1,40,0e2	5,52,82														
=		3411	3411	Other Jats.	Rerenue,	1,54,649	1.6.13	1,11,556	3,41,425 4,61,435 5,52,821 3,33,0734 45 65													
1 =				1 8			3,48,046	1,16,863														
=				Jara	Jara												Bhander.	* Parkers		151.51	1 1	13,177
=	OUB.					Bba	75-72-72-4 17-72- <b>.eo14</b> 7-42-72-20-5-4	净:	] ä	1 1	3,11,137											
77	HINDUR					i		i	•	,	i	i			i	Bet bon.	энволож	1		1 1		
2						2	- Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Serv		3 -	: 1	9											
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=			i 42	ब्द्यक्र	国 ³	0,470	192.	11,727														
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			;	:	;	;	;	;	;	;	Phylogian .	, Asta	: :			18.18						
*	í 																'	Brdba	heveune,	: :		ś
1			B ₁ d	451&	1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.50 G	47,061														
			O II.	Vereinde.	: :	13,64	13,341, 13,097	26,741														
-			0	.491A	1 :	84,725 13,145 13,644, 22,446 83 3 5 5		41,579 68,381 28,486 28,741 47,001 39,70 28,18 38,24 11,727														
•			Gate wal.	. Ветеппе.	1 :	32,728	3,666	181 .53														
			Ö	-901¥	i i	37,921	5,648	41,579														
				Meme of tabell.	Bamrala.	Ladbishn	Jetzfon	Total.														
-				Beriel Number.	<u>~</u>																	

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APPENDIX VI.—(Concluded.) Showing the distribution of Linit amongst the Agricultural tribes.

9	4	.eugetell	2,61,851	4,30.251	2,32,522	10.25.07
25	toral.	.not&	1.44,57	4,31,739	2,63,527 J:Ni	8.82,157
<b>5.</b>	E STORE	Mereum	-	<b>3</b> -	<b>\$</b> -	· · ·
- { * .	Liechtle Reods.	**************************************		84	2	
	,	He time	38	3,711	in in	2,37,210 # # # # # # # # # # # # # # # # # # #
•	Total.	A STATE OF	53,456	\$1,08 ± 1,30,199	19'20	31,939 2,84,848 2,31,518
	234.	South of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state	8.0	11,086	7,884	86 F
	Orenn.	<b></b>	8,101	op ii	10,733	9(Z,
!		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	57,834	11,08°	1,489	48,312
· ·	. Jag.	The same		18. TMT	5.7	195-4
MAHOMBDANS		- tonnerali		12,60	18.87.1 H	13.54W
онтп	ARLIN.	,461&	1,90	31,748	15,661	94° 94°
-	ai .	Revenue.	22 °	3906, 58	14,337	5,30,046
	Gesta.	.A01A.	8, 100 80	39,487	177, <del>4</del> 46	61,061
		91,57238	2 ,531	39.55 69	14,971	70,663
	Raseur	. And.	18,447	11	71,12	4 P
		.Redat to email	.elbrase.	entil's.l	Jerison	Total
		.reding K laines	~	احيت	حيت	سيت

# APPENDIX VII.

STATEMENT SHOWING THE VARIETIES OF TENURES HELD DIRECT FROM GOVERNMENT IN THE LUDHIANA DISTRICT.

(No. XXXIII of the Statements accompanying the Annual Revenue Administration Report.)

[ lxxx ]

## APPENDIX VII.

Statement showing the varieties of tenure held direct from Government in the Ludhiána District.

1	l	! 2	3	1 4	j <b>5</b>	6	7	8
NATURE O	F TENUES.	No. of eats es.	No. of villages.	No. of bulders or shareholders.	Gross area in acres.	Average area of sach estate.	Average assessment of each celute.	Reveune per acre.
I —Zeminderi.	((z)-Held by indivi-	5						
(L) Great Za-	duels under law of primogeni-		<u> </u>	<u></u>		{ 	j	ł
тыбаты ратіод ∎bovo Ra, 60,000 reseouc.	ture (5) Held by indici- dialented later- restanter educ-	{		3	<u>!</u> .	••	: 	
(2) Lunge zaminila-	t nury aw. (1971) (1971) Ditto						! 	
ria paying above Ra. 6,000 revenue (8.) Zamindaria pay-	( 1 ) 1 )					ļ	į	
ing from Rs. 1,000 to 5,000 revenue.	-14						<u> </u>	
(6) Zamindarie pay- ing Rs. 1,000 and	S(a) Ditto	1 O	117	2				***
under. (5.) Proprietary cul-		1000		6	1,697	1 325 J	871	1.2.
tivating commu- nities paying in common.		गर्मेंच	117	850	7,857	857	277	0-12-6
IIVidage Communi Common.	ties not paying in			:	 			! }
	In which the bird	}			:		; !	
(i) Patislari	are the ded apon Tropospet or pustiget	ļ }	b	ō 15	, 4.513	501	633	  - 1-4-5
	a y stara, suijest to surression by the		:	:	` !	1		: i
(2.) Bhaischara	is to which possesses on in the measure	٤	. 47	7,428	. 65,610	1 184	1 1,485	11.4.9
	of right in all lands In which the	} "   1	 !	j	1	1,102	)	
	lands are beld para-			ļ	\ 	! 	}	1
(3.) Mixed or im- perfect Pattidari or Bhaiachara.	partly in common the measure of right in common land being the amount of the share or the extent of land beld in severalsy.		818	98,3 <b>47</b>	8.12,166	993	1,293	1-4-9

### [ lxxxi ]

## APPENDIX VII,-(Continued.)

Statement showing the varieties of tenure held direct from Government in the Ludhidna District,

1	3	3	4	, 6	6	7	8
NATURE OF TEXTURE.	No. of estates	No of Thages.	No. of holders or shareholders.	Gross area in acree.	Average area of	Acres assessment of act to	Renause per agre.
Grantees of Braish Government (not falling under any of the previous classes) paying revenue direct to Government in the position of—			5				
(1.) Proprietors Including individuals rewarded for services, or otherwise but not purchasers of Govern-tuent waste (*).		-				,	
(C) Louces			1		:		
iV.— I. in hydders who have r beyond the reverue and me not members of nov village community not included in any cr the previous classes.	Via Via						····
V.—Purchasers of Government waste pay- ing revenue direct to Government, and not falling under any of the previous clauses,						.,.	
FI.—Government waste (a) Administered :  security of unas derives law    signed:  (b) Other lands	}			277	138		. <b></b>
Terat	3	91,9	96,7.5	H183 121	IIA		1-4-2

## APPENDIX VIII.

# STATEMENT OF TENURES NOT HELD DIRECT FROM GOVERNMENT.

(No. XXXIV of the Statements occompanying the Annual Revenue Administration Report.)

### [ lxxxiv ]

### . APPENDIX VIII.

Statement of Tenures not held direct from Government in the Ludhiána District.

Dintriet.	Natural of Temperal.	Sumber of hold.	Area of land beid.	Average area of hosting.	Average cash rent of each holding	Average rend por acre.
				A. R. P.	Rs. A. P.	Rs. A. P.
$ \{$	I.—Tenants with right of occupancy—  [2] [(1) Paying culy the amount of the Govern-	Ì				
	much sevena for the proprietors	3,669 1,642 205	18.944 5,816 346	6 2 14 3 2 14 1 2 4	5 5 0 5 7 11 3 6	1 2 6
	(1) Partie hump sums (cash) for their hold-	891	1.819	2 3 6	6 2 7	2 3 4
- Li	Total, jusing rent in ea h	0,087	24,654	4 0 R	6 5 4	1 0 0
- 11	((2) i produce and more (2) i produce and loss	- 81	748	9 3 17	•••	ļ ···
- 1	((1) Paying by s) (a) 1 produce and less	5.43	3.4×4	8 1 14	•••	···
- il	the produce in ( ) then produce and less	430	555	1 1 7	•••	••
- {	than { produce (e) less than } share of	4.3		""	***	
- 11	(2) Paying by a (4) when the share of produce paid is a	7	,	. ***		. ***
Ĥ	the produce B (6) when the share of		·	ઋ	***	F+4
li	E cash contriba- produce paid la less	23	85	3 3 19	10 6 7	211 1
	tion.  (3) Paying atix-)  ed amount of	i de la				
LTDUTTANA	grain for their bellings with 0 or without a further cash contribution.	88 1111	72R	8 1 34	373	0 4 7
1:	Total, paying rest in kind	1 265	6,400	1 3 5		<u></u>
- {	Group to and a tonsoria with right of no dipolic, and	200	3, 123	4 125		
1.	His-Toma to had no conflict many	i	j			
- 1:	(1) For life (2) For period 1 (a) written }	1			.,	
- []	on lease. (16; not written) (3) Subject to village service and (ayment of	ļ	! ••• !	i		' İ
14	Left			i	: i	i
- !{	III. — Tenants at will —				!	}
- 11	(a) Paying in kind   produce and more	19,335	31,196	2 1 3	•••	:::
-	(c) Paying in such and partly in kind	12,215 310	35,043	3 3 19	:::	::
	IV.—Holders of service grants cultivating the lands held i e., parties enjoying free holds from proprietors, being excused all revenue.—	! 			;   	
- [1	(1) Sankelap or Dharmarth	1,744	2,814 139	1 1 35	i :::	
	(2) Conditional on service Total	83,791	1,49,653	2 3 6		
1	1044	******	( , , , , , , , , ,	<u> </u>	<u> </u>	[

htswands.—The details of this return have been taken from the annual papers of 1982-83, and differ rothewhat from those of App, 11., which was prepared from the Surrey papers of 1873-79.

### APPENDIX IX.

GOVERNMENT NOTIFICATIONS REGARDING THE LUTHIANA SETTLEMENT WHICH HAVE BEEN ISSUED FROM TIME TO TIME.

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### APPENDIX IX.

Government Notifications regarding the Ludhisna Settlement which have been issued from time to time.

### (1).-General Notifications.

Notification No. 216, dated 25th February 1879.—Whereas the Ludhiana district is to be put under Settlement, His Honor the Lieutenant-Governor is pleased, with the previous sanction of the Governor-General in Council, to issue the following notification of Settlement, in accordance with the provisions of Section 11 of the Panjab Land Revenue Act, 1871:—

(1). The local area which is hereby put under Settlement consists

of the Ludhiána district.

(2). Powers-See below.

(3). The Settlement to be made will be a re-Settlement, and will comprise both a re-assessment and a revision of the record of rights.

). Surveys and plans will be made for the whole district.

Notification No. 2338, dated 14th August 1880.—In exercise of the powers conferred by Section 35 of the Court Fees Act VII of 1870, the Governor-General in Council directs that the fee on a plaint or memorandum of appeal in a suit for a decharation of title instituted in the Court of a Settlement Officer invested with the powers under Section 49 of the Panjáb Courts Act, 1877, shall be reduced to one rupes.

Netification No. 267, dated 25th October 1882.—So much of Panjob Covernment Gazette Notifications, Nos. 216, 217 and 220 of 25th February 1879, 886 of 29th July 1879, 1237 of 17th November 1879, 1340 of 13th December 1879, 590 of 20th June 1880, 372 of 31st March 1881, 395 of 2nd April 1881, 754 of 11th July 1881, 1139, dated 27th October 1881, 215 of 7th September 1882, and 237 of 23rd September 1882, as related to the trial of smits and appeals regarding land or the rent, revenue or produce of land arising in the Ludhiana district, is hereby cancelled with effect from the 2nd November 1882.

Under Section 49 of Act XVII of 1877, the Honorable the Lieutenant-Governor is pleased to direct that the jurisdiction hereby withdrawn shall from the said date be exercised solely by the Civil Courts by which such jurisdiction would have been exercised had the parts of the aforesaid notifications hereby cancelled not been published. Provided that any cases now pending before any officer under any of the said notifications shall be disposed of by him as if this present notification had not been issued.

Notification No. 248, dated 31st October 1883.—In continuation of Panjab Government Gazette Notification No. 267, dated 25th October 1882, the Honorable the Lieutenant-Governor, on the report of the Financial Commissioner that Settlement operations are complete in the Ludhiána district, is pleased to direct, under Section 17 of Act XXXIII of 1871, that the record of rights recently prepared for the said district be handed over to the Deputy Commissioner of Ludhiána.

### (2).-Powers of Officers.

Mr. T. Cordon Walker, Settlement Officer.

CIVIL POWERS-

Notification No. 216, dated 25th February 1879.—Powers of a Deputy Commissioner as defined in Act XVII of 1877 to decide suits and appeals—

(1). Under the Panjab Tenancy Act, 1868.

(2). To alter or cancel any entry in the register of names of proprietors of revenue-paying estates.

(3). Under Section 9 of the Specific Relief Act of 1877.

Notification No. 1237, dated 17th November 1879.—To hear suits and appeals for declaration of title in laud, or the rent, revenue or produce of land.

REVENUE POWERS-

Notification No. 218, dated 25th February 1879.—Powers of a Deputy Commissioner specified below—

(1). Under the Panjáb Tenancy Act, 1868.

(2). Under the Panjah Land Revenue Act, 1871, proceedings for the collection of revenue or arrears of revenue being excepted.

CRIMINAL POWERS-

Notification No. 219, dated 25th February 1879.—To continue to exercise in the Ludhiánadistrict the Magisterial powers with which he was invested by Panjáb Government Order No. 804, dated 18th July 1877.

M. Charanjit Lál, Extra Assistant Settlement Officer.

CIVIL POWERS-

Notification No. 216, dated 25th February 1879 .- As above.

REVENUE POWERS-

Notification No. 216, dated 25th February 1879. - As above.

CRIMINAL --

Notification No. 219, dated 25th February 1879 .- As above.

M. Ahmad Bakhsh, Officiating Extra Assistant Settlement Officer.
Civil powers—

Notification No. 215, dated 7th September 1882 .- As above.

REVENUE POWERS-

Notification No. 216, Cated 7th September 1882,-As above.

### [ lxxxviii ]

CRIMINAL POWERS-

Notification No. 217, dated 7th September 1882. Powers of the Magistrate of 1st class.

M. Harbans Lál, Superintendent.

Notification No. 216, dated 25th February 1879.—Powers of a tabsildar with special powers in respect of the classes of Civil and Revenue cases mentioned above.

M. Khushál Singh, Superintendent. Notification No. 216, dated 25th February 1879.—As above.

M. Almad Bakhsh, Superintendent.
Notification No. 216, dated 25th February 1879.—As above.

M. Ishar Dús, Superintendent.
Notification No. 216, dated 25th February 1879.—As above.

M. Mahomed Azím Khún, Officiating Superintendent. Notification No. 889, dated 29th July 1879.—As above.

M. Jodh Singh, Superintendent.
Notification No. 1310, dated 13th December 1879.—As above.

*M. Khildam Plusein, Superintendent. Notification No. 590, dated 26th June 1880.—As above.

M. Amír Chand, Officiating Superintendent. Notification No. 372, dated 31st March 1881.—As above.

M. Karm 8háh, Officiating Superintendent. Notification No. 395, dated 2nd April 1881.—As above.

M. Amér Chand, Superintendent. Notification No. 548, dated 25th March 1881.—As above.

M. Karm Shah, Officiating Superintendent.
Notification No. 237, dated 23rd September 1882.—As above.

### APPENDIX X.

RETURN OF CIVIL, REVENUE AND OTHER CASE WORK DISPOSED OF BY THE OFFICIALS OF THE LUDHIANA SETTLEMENT.

I .- General Statement showing the work performed by each grade of officials.

Oppior.	Original Civil Butta	KreentionCases	Original Bere- nue Cases.	Civil Appesso.	Berente Appeals	Orininal Cases
Settlement Officer			2,200	181	87	25
Extra Assistant Settlement Officer.	284	91	5,411	123	18	54
Superintendente	1,236	265	8,792			128
Toral -	1,520	356	11,103	304	105	202

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### 11.—Olassified Statement of Original Civil and Revenue cases decided.

	No. in the		
2 4	Hueinges	DESCRIPTION OF SUITS.	No. of
F do.	Meturn form	<b>*</b>	C&165.
		A Ordinary suits for rights.	
1	7	Suits to recover possession of immerable property.	
- 1	, ,	Section 9 of the Specific Relief Act	321
2	12	Correctness of an entry in a record of rights under	
_	i	Section 20 of Act XXXIII of 1871	100
8	13	Other rights affecting the immovable property not	100
	10	expressly provided for	537
	1	captoon, provided for	
		TOTAL A	958
		B.—Rent suits and suits under Panjab Tenancy Act.	
4	23	Suits to recover arrears of rent from tenants without	
_		right of occupancy	37
б	29	Suits to recover under Section 5 by tenants for right	
•	~~	of occupancy	171
6	80.	Suits to recover to establish right of occupancy under	1 -1-
•	" ~	Section 8	25
7	31	Suits under Section 6 by landlords for rebuttal of	"
•		presumptive right of occupancy	29
8	32	Suits under Sections 10 and 11 for enhancement of rent	227
ă	36	Suits under Section 19 by landlords for ejectment of ten-	~~,
•	"	ants without right of occupancy (Section 19, clause 1)	5
10	38	Suits under Section 20 by landlords for ejectment of	•
10	00	tenants without right of occupancy	12
11	39	Suits under Section 25 by tenants to confest netice	1 4
- 1 1	1 ""	of ejectment	56
		or decimentality (1)	
		T. TAL. B	563
	i		
12	46	CRivenue cases.  Lambardare' cases	1,035
13	47	Patwaria' cases	164
14	49	Erection of boundary marks, Section 22 of Act XXXIII	10*
**	**	of 1871	150
15	54	Grants of revenue to gardens and groves, Finl.	100
	0.1	Come.'s B. Cir. I of 1870	10
16	55	Investigations as to grants and resumptions of assign-	••
	00	ments other than mentioned in Financial Com-	
	1	missioner's Book Cir. XII of 1875	2,784
17	56	Allurion and Dilurion	489
18	58	Mutations in the registers, other than lambardars' cases	5,103
19	59	Partition of lands held in joint ownership	1,853
20	60	Complete partition of estates	1,000
21	61	Under Section 17 for division or appraisement of	•
	1 "	produce	6
22	62	Under Section 23 services of notice of ejectment	266
23	63	Under Section 26 proceedings in assistance of ejectment	42
	"	the state of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the	
	1	TOTAL C	11,403
			11,190
	]	GRAND TOTAL A, B, C	12,923
	1	1	12,520

# APPENDIX XI.

(L)—STATEMENT SHOWING THE EXPENDITURE FROM IM-PERIAL AND PROVINCIAL REVENUE UP TO \$1st OF DECEMBER 1888.

बद्धपंच नवन

### APPENDIX XI.

(1.)—Statement showing the expenditure from Imperial and Provincial Revenue up to 31st of December 1883.

be	fajor sad of ervice,	Minor head of service.	Expenditure.
ROES.	hment.	Salary and Settlement allowance of gazetted Officers Travelling allowance of gazetted Officers	Rs. As. P.  88,294 15 11 6,242 9 0  94,537 8 11
ETTLEMENT CHA	Establishment.	Office establishment	95,648 1 8 57,733 6 10 1,48,589 7 5 3,01,970 15 11
LAND-REVENUE SETTLEBERT CHARGES.	Contingencies.	Travelling allowance of Establishment Hot and cold weather charges Tour charges, including pay of khalassis and carriage of records Purchase and repairs of tent Hutting Survey equipment Other items	11,774 1 5 1,286 5 5 7,917 11 10 1,800 12 6 482 0 0 2,499 9 0 11,178 6 2
		Advance from Parcha fees  Total Land-Revenue Settlement Charges	36,938 14 4 24,212 15 5 4,57,660 6 7
Law and Jus-	Printing.	Process serving establishment Country stationery Lithography Total	7,652 6 6 17,989 5 10 3,785 0 9 29,426 13 1
Ot	ther }	Office rent Total Rs	7,181 0 11 4,94,267 4 7

# [ xcv ] APPENDIX XI.—(Continu

# (2).—Statement of receipts and expenditure under the Fees up to 31st of December 188

No.	Head.	Receipt.	Expenditu		
1 2 3 4 5	Patwaris' fees Parcha fees, 6 pies Fine of Patwaris Miscellaneous Office Record Fund Copyists' fee	Rs. As. 2,05,800 9 8,532 1 3,703 3 8,793 4 1,533 4 10,086 5	7 0 0 11 6 0	Rs. 2,00,388 4,662 3,430 8,774 580 10,084	1

(3).—Statement showing the amounts to be credited account of Settlement Fees and other items, Settlement operations.

### Head of Receipt.

Balance of 6 pies fees
To be realized on account of final Parcha fees
To be realized from Jagirdars on their share of the
expenses of Settlement
Credited to Government by sale of waste paper, &c., &c

Total Rs.

Total cost of Settlement ... ... ... ... ... ... ...

NET COST OF SETTLEMENT

## APPENDIX XII.

NOTE ON THE SUBJECT OF THE PRICES OF AGRICULTURAL PRODUCE IN THE LUDHIANA DISTRICT, WITH A COMPARATIVE STATEMENT OF THOSE PREVAILING FOR THE LAST FORTY YEARS.

सरप्रयोग नगरी

### APPENDIX XII.

Note on the subject of the prices of agricultural produce in the Ludhiána district, with a comparative statement of those prevailing for the last forty years (written in 1880.)

- 1. In a district like Ludhiana, where there was little margin left at the last Settlement for extension of cultivation, an enhancement of the assessment must be chiefly based on a rise of prices; and the subject of the fluctuations of prices attains the first importance.
- 2. There are two branches of inquiry into the subject of prices which present themselves in a revision of assessment Two branches of the inlike this. There is first the general one or the quiry. variations of prices during the term of the expiring assessment, and the question of what alteration in the average of prices has occurred since the last assessment was fixed which calls for its revision; and there is, next, the more particular one of what rates we ought to adopt in the produce estimates by which our assessments are checked. It is most convenient to take up both branches of the subject at one time; and, indeed, they are scarcely separable. The two forms of the inquiry are, first, to what extent the value of agricultural produce has varied, and how the prosperity of the agriculturist has been affected by variations of the price which he has been enabled to obtain for his surplus produce; and, second, what variations have occurred in the value of the share of his surplus produce to which Government is ontitled. I do not mean to say that this share is a fixed quantity; for it of course varies with changes in the productive power of the soil and with rents, both of which causes of variation ought to adjust themselves in the produce estimates.
- 3. The inquiry as to prices was made under directions contained in Settlement Commissioner's Circular No. 74 of 1879. It was based on three sources of information, which I give in order of importance—
- I.—The prices which the agriculturists make over their produce at harvest time to the village shopkeepers.
  - II .- The trade prices at the principal marts of the district.
- III.—The prices at the head-quarters of the district reported fortnightly and published in the Gazette.

The inquiry as to agriculturists' prices (1) was made by the four Superintendents in the cluef villages of their charges. A good many villages had to be selected by each Superintendent, so that the books found in them might make up for mutual deficiencies and might give a reliable average for each tabsil. The number of villages in which books were examined by each Superintendent was-Samrála, seven; Ludhiana, seven; Pakhowál, five; Jagráon, four. I think that the inquiry has been extremely well mad, and that the result is reliable. The prices taken by the Superintendents from the books of the shopkeepers were those entered as allowed to agriculturists at the time of making up their accounts, that is about 15th June for the Rabi, and 15th December for The trade prices (11) were inquired into by the Extra Assistant Settlement Officer in the four principal marts of the district, Ludhiána, Khannah (both on the line of Railway), Jagráon and Raikot (each distant about 25 miles from Ludhiana, but now connected with it by a metalled road). Two sets of prices have been taken from the traders' books: (1) those prevailing at the time of harvest; (2) the average of the year-of the prices at a certain date in each month. The statement of prices worked out from those reported in the Gazette is as complete as it could be made from the materials.

- Period over which the inquiry extends is the forty years 1840 to 1633. The averages for eight periods of five years have been struck, and the result obtained for the principal kinds of produce from each of the three Statements entered in a comparative statement (appended), which shows for the whole district the agriculturists' and trade prices for these periods of five years side by side. The trade prices are shown for 30 years only, as the Extra Assistant Settlement Officer did not extend his inquiry turther.
- Agriculturists' prices with which we are most concerned are those at which the agriculturists dispose of their produce; and the trade prices are useful principally as a check on these. The relation between two sets of prices as it appears in the Statement is very much what we should have expected. Anomalous results occur here and there; but these disappear in the final averages, at all events in the price of the more common grains.
- 6. Let us consider first then the general question of the variations

  General question of variation of prices as shown in these statements Mr.

  Carpenter, in a memorandum on the subject (Decean Riots Inquiry,) lays down the principle that "when an enhancement of assessment is proposed proportionate to a rise in the price of grain, the proposal rests on the following assumptions:—
  - (1). At a given period the assessment bore a proper relation to rent.
  - (2). A rise in the price of grain has taken place since that period.

The pan nearest the wall is lower than the other, and is fixed (called "pichla"); and into this the juice is poured. The second pan is higher and movable. When the juice has been boiled and evaporated in the lower pan for half an hour, it is lifted with a ladle into the upper pan, which is cooler; and there boils more slowly till it is ready, generally in about an hour. The pan is then lifted off, and the juice stirred till it is cool, when it is poured into a flat dish of earthenware, ("gand)", where it lies to the thickness of about one or two inches. It is, when cool, scraped up with a wooden scraper, and is either granular, in which case it is called "shakar," or viscous ("gnr"). If "gur," it is made up into balls of about four seer; weight ("bheli.") "Shakar" is put into earthenware jars. It depends entirely on the quality of the juice whether the produce takes the form of shakar or of gur: and this depends again on the soil and the chraracter of the season. In the above process no chemical appliances are used; but in places lime and water are poured into the boiling juice to clean it, the scum being removed. This is generally done where shakar is produced, and has the result, it is said, of giving it a light colour, which is a recommendation.

The total number of more employed on pressing and boiling of generally seven: two to drive the fullocks, two to feed the mill, and one to hand the cane to the feeders, one in the boiling house, one to feed the furnace outside. The last is a Chanar or menial; but the other six are all of the cultivating class. The Hindu Jats of the Dhaia not only make, but sell at their own price and when they choose their gur and shakar.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture in the Bet.

Manufacture there is of two parts, the juice is extracted and boiled at the "belina" in much the same manner as in the Dhaia; but takes the more liquid form of "rab." Only one pan is placed on the furnace; and, when two jurs are filled with jnice they are emptied into this timou is a straining cloth, and the juice boiled. Water boiled with "sakhlaie" bark is added for the purposes of purifying the juice, and the semm is removed as it rises. The boiling takes about 2½ hours. When the boiling is completed the juice, now in a semiliquid state and called "rah," is taken out in a ladle, and put into an open vessel of earthenware till it cools, when it is poured into high jars ("matti"), the mouths of which are then closed with mud. These jars hold about 3½ to 4 manuels (packa* weight) of rab.

The boiler, called "rabi," is always a man of the shopkeeping class, boiling being something of an art. The other men at work are, as in the uplands, cultivators or village menials. But the cultivator has really nothing to do beyond extracting the juice. Where the cultivator is not involved and can dispose of his produce himself, the "rabi" is his servant and paid by him. But he is generally the servant of the money-lender who has advanced money on the crop. It will be better if I here describe the relations between the ordinary cultivator of the Bet and his money lender as the results.

his money-lender, as they so materially affect the sugar industry.

[•] The packs maund is the Government standard, and the kachs that in use amongst the people. The latter is about two-fifths of the former.

assessment was considerably short of the estimate, and that the assumed rates of produce were under the mark. No difficulty appears to have been experienced here in realizing the revenue, though the demand must have pressed more heavily than was designed; but the ease with which it has always been paid, even when prices were very low, is a proof that it was well under the standard.

The prices assumed varied in the different parganas. They were for the principal products. Wheat, 40 to 45 seers a rupee; barley, 52 to 65; sarson, 25 to 30; joar, 56 to 68; moth, 46 to 60; maize, 50 to 62; wheat and gram, 45 to 52. The prices are in keeping with those prevailing from 1840 to 1850; are much higher than those of 1850 to 1860; and are considerably below the average of the term of Settlement, the last thirty years.

From these considerations I conclude that the amount at which the expiring assessment was fixed did not on the whole exceed the standard now laid down, namely half rent or net assets, though it may have done so for a few years.

Fluctuations in prices.

Fluctuations in prices.

The fluctuations in prices.

The prices are irregular, and vary greatly from place to place. In considering the prices of these periods we must bear in mind the political condition of the country, which was broken up into a number of small independent States. Under these circumstances trade was scarcely possible, for each State levied tolls, and there was no police to protect the traffic on the roads, such as they were. Prices were in a great measure arbitrary and varied within short distances.

During the ten years 1850 to 1859 prices remained at a low level, falling steadily till the end of the period. I have referred to the causes of this in the last paragraph and need not do so again. The period of five years 1860 to 1864 is one of transition, prices being on the rise.

During the last fifteen years 1865 to 1880 the level-of prices has been stationary.

11. For purposes of comparison I think it is best to take the two periods of twenty years 1840 to 1859 and 1860 to 1879, remembering that the first of these includes the high prices preceding Settlement and the low prices following it. Taking these two periods, we find that there has been a rise in the price of wheat of about 65 per cent. If we compare the average of the last twenty years with the assumed average of Regular Settlement, the increase is only about 33 per cent. There has been a corresponding rise in the price of other grains of from 50 to 65 per cent.; or, if the comparison be made with the assumed Settlement rates, of about 30 per cent. The rise in "gur" is about 28 per cent., and that in cotton 45 per cent. from the average of the first twenty years.

12. It would make this note too long if we were to examine minutely the fluctuations, tracing them from year to year. Up to the end

Variations from year to year, and general conclusions to be drawn. of 1859 the variations are not very marked, or at all events the level of prices is tow: but bad seasons raised the prices of rabi 1860. Then followed failure of the autumn rains and

loss of the harvests kharif 1860 and rabi 1861, resulting in a famine. There was a recovery of prices, but they never quite returned to their old position. From 1865 there is no tendency to return to the old level. There are oscillations, but they are over a higher line than before. If we exclude the scarcity year of 1869 we find that in Ludhiana between 1865 and 1877 the price of wheat varied between 37 and 28, and averaged 31. It is interesting to note the sudden recovery of prices after the scarcity of 1861-62 and the more gradual return after 1868-69, when the means of communication were more complete.

It is clear, then, that for the last fifteen years prices have on the average been stationary. The variations have not been abnormal, and are such as would naturally occur in consequence of full or short harvests. After the scarcity of 1868 prices returned to the level of the four years preceding it; and there is no reason for not believing that prices, which have been very high for the last two years, will not re-attain their average. On the whole, we may conclude that the level of the last fifteen years has been fairly established, and that, humanly speaking, there will, at all events, be no rise above that level during the next twenty or thirty years. An examination of the causes of the rise will confirm us in this.

Into the causes of the general rise in the prices of agricultural produce throughout India we cannot here Causes of rise. inquire. Had the district continued in a state of isolation, and the means of communication through it remained as imperfect as they were at the time of the Regular Settlement, there would still have been a rise of prices. But the improvement in communications is the principal cause which has operated to produce, or, at all events, has accentuated the rise in this district to the level of the last fifteen years. The opening of the Sindh, Panjab and Delhi Railway, which took place above twelve years ago, has, by extending the market for the produce of the district, once and for ever we might say, brought up The arer of the district is only 1,378 square miles, and it is traversed by about 35 miles of railway and 125 miles of metalled The principle that supply follows demand has been establishing itself in practice; and nothing short of r decided fall in the value of agricultural produce all over India, and, we may add, Europe, will make prices recede towards their old level. The means of communication in the district are now so good that a demand in any part of India is at once felt throughout it and answered. Were prices to fall much now, it is pretty certain that a good deal of the wheat of the district would find its way eventually into European markets; and the importance of wheat is much greater than its mere acreage denotes; for it is the grain of export, and is cultivated on the best irrigated lands, which yield three times as much as unirrigated.

I can do little more than refer to the third assumption quoted in paragraph 3, the rise in rent consequent on the Corresponding rise in rise in prices. Generally speaking, the two other principal facts which affect rents are (1) changes in the productive power of the land, and (2) changes in the standard of comfort of the cultivator. Our new assessments must be grounded on rents o. the net profits of the proprietor as they are found to exist now. My inquiries into the subject of rents show that cash rents are very sensitive, and have a tendency to vary with prices. Rents in kind are fixed by custom, but a rise in prices directly enhances the value of a kind rent. The share of the produce which the propriator now takes is certainly not less than what he used to take; so that we may say there has been a rise in rents corresponding to the rise in prices. The productive power of the land has certainly not deteriorated, though on the other hand it has not probably increased. The method of cultivation, amount of manure used, &c., have not altered within the last thirty years.

The standard of comfort of the cultivator has probably risen, markedly so in some parts of the district; but this has not in any way interfered with the rise in reuts, as the value of the cultivator's share of the produce has also increased in proportion to that of the proprietor. The area under cultivation of tenants paying competition rents is not very large, and cultivating proprietors hold upwards of four-fifths of the whole. In the case of the latter there is nothing to check the rise of the standard of countert; and it is probably greater than in the case of tenants. But, on it whole, I think we may fairly argue from the analogy of the rent paid by tenants: it-will to the net profit of the cultivating proprietor. We have no other data.

- Conclusions.

  Conclusions.

  Conclusions.

  Conclusions.

  prices is that, if we had only to look to them, we might expect an enhancement of the present assessment of 25 to 33 per cent., if we make a comparison with the prices assumed in framing it. There has, however, been a rise of 50 to 65 per cent. in the prices of the last twenty years over those of the preceding twenty; and, as the expiring assessment has been easily borne through the whole of its course, we might conclude that the rise in prices pointed to an enhancement to this amount.
- 16. We now come to the second part of the subject, and have to determine what scale of prices Prices to be adopted for should be adopted in calculating the value produce estimates ; agriculturists' and of the net profits of cultivation. There tra icis' prices compared. is a marked difference between the prices shown in the first two columns (the harvest prices) and the averages of the year shown in the third and fourth. This was of course to be expected. When the new grain of a harvest is poured into the market the prices prevailing between traders will, except in the case of a failure of harvest, be lower than the average for the year. We should expect also that the prices at which the

agriculturists disposed of their surplus produce to the local traders, or rather money-lenders, would be lower than those at which the latter resold it. The difference between the first two columns is the traders' profit in an immediate resale.

I believe that the prices shown in the first column are those which the average agriculturist actually realizes. Money-lenders may in practice give less favorable prices than they show in their books by taking over-weight and other devices; but, on the other hand, a good proportion of the agriculturists do not require the assistance of the trader, being able to bring their produce to market and dispose of it themselves, realizing the traders' prices. Some are also quite independent enough to store their grain and wait for a favorable market. The ordinary agriculturist is not bound down to his money-lender, but is quite capable of seeing that he gets a fair price. We may therefore neglect such considerations as interest on advances, banias' perquisites; and assume that the average agriculturist realizes at least the prices shown in the first column.

Prices adopted produce adopt for our produce estimates. These are, with a few trifling alterations, the averages of the agriculturists prices for the last twenty years, the period laid down in the directions to Settlement Officers. Variations have been made here and there, where deficiency of materials or some other cause had produced an abnormal result; and a note is given on the statement explanatory of the prices adopted. It is improbable that the average of prices during the term of the revised assessment will exceed the average of the last fifteen years; but the difference between those of the last fifteen and of the last twenty years is not very great, and I prefer to adhere to the latter.

No. 1393, dated 11th September 1580.

From-Major E. G. Wace, Settlement Commissioner, Panjab,

To-THE SETTLEMENT OFFICER, Ludhiana.

I have the honor to reply to your No. 228, dated 24th ultimo, forwarding a note and statement showing the results of your inquiries into the prices of the past forty years, and those which you propose to assume in your assessments as the average value of produce.

- 2. I append a statement in which the average values thus arrived at by you are compared with those on which other recent Settlements have been based.*
- 3. In paragraph 9 of your note you state that the produce estimates and the assessment of the expired Settlement was based on the prices which prevailed from 1840 to 1849. These prices as recorded

^{*} Note.-Green in para 213 of the Report.

tivation, and should also prepare us for a great discrepancy between the value of the outturn and the cash rents prevailing; and this we find to exist. It will be more convenient if I first describe the processes of manufacture and the various forms of produce, and then endeavour to estimate the yield in its various forms.

The processes of manufacture employed in the Bet and in the Dhaia or uplands are quite distinct, and an ac-Process of pressing th cane and manufacture in count of the latter will be given first. When the Dhaia. the season for pressing approaches (November to March) the belna or mill and other appliances are put in order. The number of belnus in a village depends on the area under cane, one being generally shared by three or four proprietors, and being sufficient to press some six or seven acres of cane in the season. The belna is put up outside the village, and is surrounded by a wall four or five feet high with an opening at one side. Leading off this enclosure is the house where the juice is boiled. The house and enclosure are allowed to fall into ruin every year, the former having to be re-roofed and almost completely renewed annually. The belna too is dismantled every year; and the machinery lies about, in the village pond generally, where it is immersed. The building of the boiling house and the

> setting up of the belna are a great undertaking. The annexed sketch

> throughout the district is of the sort described in "PunjabProducts" (p. 305). The cone is pressed between two horizontal rollers of wood, which are made to revolve by two vertical cogged wheels, working into an upper horizontal one, which is turned by two pairs of bullocks

> yoked to levere attached to it. The

horizontal wheel is above the surface.

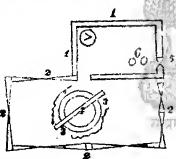
The day before the cultivators

of the belna.

The mill used

shows the position

boiling house, &c.



Boiling-house.

Enclosure of the mill. Levers worked by bullocks.

The belna or mill pit in which it while the rollers are sunk in a pit. works, &c.

The furnace (mouth of it.)

" vari " or turn as the mill, the cane The pans for boiling. The plate for cooling ("gand"). is cut and stripped in the field, and the parts reserved for seed set aside. The cane is then carted to the

mill in the evening, and next day it is pressed and the juice extracted. Two men sit at opposite sides of the rollers passing through the cane, which is tied up in bundles of 40 or 50 canes each. The juice runs into "chattis" or jars of earthenware placed beneath the rollers to receive it. As the jars are filled the juice is taken into the boiling-house, and the boiling commences.

At one end of the boiling-house there are two pans of iron, about four feet in diameter, placed over a flue Boiling in the Dhaia, heated by a furnace fed from the outside of the building (see sketch), the fuel being the refuse stalks; heads, &c.

in the assessment papers and as now ascertained compare with the average prices of the past twenty years as follows:—

			SERRE PUR RUPER.					
			Value assumed at last Settle- ment.	Average value for the ten years ending 1849 ascertained by present in- quiries.	Average value for the twenty years ending 1879.			
g (Wheat			40 to 45	41	30 .			
Barley	•••	***	52 to 65	67	40			
g Gram	***	***	45 to 52	53	35 and 38			
🕰 ] Wheat and Gram	***	***	45 to 52	***	33 and 35			
S Mustard seed .			25 to 30	31	20 and 22			
Wheat Barley Gram Whest and Gram Mustard seed Cotton (uncleaned)  Maize Joar Bajra Moth Til Gur and Rab	•••	AC	15%	17	10			
Maize	•••	A 13	50 to 62	50	32 and 36			
S Joár	***	(2 K)	56 to 68	51	36 and 40			
E Bajra			<b>学科学</b>	85	411			
H   Moth	•••	A E HOLE	46 to 60	46	35			
Til	211		Report to	30	15			
	,	T-5/10 100 100	PZ9411	19	15 and 16			

And (in paragraph 15 of your note) you observe that from the point of view of prices only, Government may expect at this Sculement an enhancement of revenue not less than 25 per cent. at the lowest. The causes which have contributed to the establishment of these enhanced prices are described by you as being the general progress of the country during the past thirty years, the famines of 1860-61 and 1868-69, with their consequent stimulus to trade and especially the opening of the railway to Ghaziabad in 1870, which opened the local market to the demands of the whole of India and its seaports, and has thereby rendered it improbable that the prices of agricultural produce will ever sink again to the low level which prevailed between 1850 and 1860.

4. As the average prices on which you propose to assess agree closely with those recently assumed in the Settlements of the Delhi division and of the Rohtak district, and in view of the great trading advantages now possessed by the Ludhiána district, I approve of your framing your produce estimates on this basis.

### ES CURRENT.

#### TIVE STATEMENT.

OF THE CHIEF STAPLES FOR PERIOD OF FORTY YEARS.

nancy-leaders books, i. e., prices at which cultivators disposed of their grain; (2) from trail rs' books, (a) prices (3) from the reports published in the Government Gazette, i. e., prevailing at head-quarters of the district.

										KBA	VIF.									_			
800 Boo	OTS) Shatti		Системи Сорток.				Mate.				Mote (smas).					;o. 1 (	Mitral	.)		B	ás.		Tit.
Rar prices of traders.	Aretogo of dicto.;	/ .erage from Gazetto.	Superprisedant a press, se., those paid to agre ulturate.	Author prace of traders	Aretuge of titt	Average from Tarette.	Superulendent a proce	Barroot prices of tradem.	Average of dillo.	Average from Gazette.	Superstradent's press, t.e., three three paids. Agreeutharists.	Hartest prices of 17aders,	Average of ditto.	Areruge from ffacetta.	Superintendent's prices, i.e., these year to Agriculturists	Marvest prices of traders.	Average of ditto.	Average from Gazette.	those paid to Agriculturate	Harrost prices of tradets	Assrage of ditto.	Average from Gasetto.	Seper ciendent's prices,
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### PRIC

#### COMPAR.

#### SHOWING TRADE AND AGRICULTURISTS' PRICES

Comparative studement showing the prices current of the principal staples as weerth and (1) from prevailing at harvest time between traders, (b) average of prices on a certain date in each month;

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# APPENDIX XIII.

NOTE ON THE CULTIVATION OF SUGARCANE AND THE MANUFACTURE OF SUGAR IN THE LUDHIANA DISTRICT.

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### APPENDIX XIII.

Note on the cultivation of sugarcane and the manufature of sugar in the Ludhiana District.

In this district sugarcane is grown either in the high lands with the aid of irrigation from wells, or in the low unirrigated lands along the river (B4t) where the soil is moist or actually flooded., The only exception to this distribution is that "Ponda," or the thick sort of sugarcane which is eaten raw, grows in a few of the Bét villages about Ludhiána city at the wells; but the area under this is very small, and I will, for the present, leave it out of account. In the Bét cultivation is confined to the Samrála tahsíl and to a few villages adjoining it. In the uplands there is very little west of a line drawn due north and south through the city of Ludhiana.

2. The varieties of cane and the method of cultivation have been described with sufficient detail in paragraph 112 of the Report, and I

need not repeat what I have written there.

3. It is difficult to estimate the cost of each process of the cultivation of any crope; and I think that all Cost of cultivation. calculations of this sort are to be distrusted. A cultivator distributes the labour of himself and his cattle over the whole of his holding in which many different crops are grown; and it is impossible to say that his labour on such and such a process of the cultivation should be valued at so much. The only method of arriving at a satisfactory conclusion appears to me to be this, to find out by actual experiment the average yield in the form that the cultivator disposes of the produce and the value of this; and to determine from the prevailing rates of rent paid how much of this is to be assigned to the cost of cultivation and how much to the root. In this d'strict land is mostly cultivated by proprietors, and the whole area under tenants is not large. When land is taken by a tenant for the cultivation of sagarcane, a rent in kind or share of the produce is never paid, but a cash rent is agreed The same is the case with maize and cotton; and the reason is apparently that the cultivator prefers to take the chance of resping the full benefit of his labour to allowing the proprietor to share in the result of any extra exertion that he may make. Kind rents are suited to unirrigated lands where the labour is only that of ploughing, reaping and threshing, and where so much depends on the character of the The labour involved in cane cultivation is much heavier than in that of any other crop, for it is continual and lasts for about twelve months; and there is besides the labour and expense of manufacture. Bullocks used in cane cultivation and in the presses last for a very short time comparatively, and have to be replaced after five or sir years. These facts make it very difficult to estimate the cost and profit of cul-

The pan nearest the wall is lower than the other, and is fixed (called "pichla"); and into this the juice is poured. The second pan is higher and movable. When the juice has been boiled and evaporated in the lower pan for half an hour, it is lifted with a ladle into the upper pan, which is cooler; and there boils more slowly till it is ready, generally in about an hour. The pan is then lifted off, and the juice stirred till it is cool, when it is poured into a flat dish of earthenware, ("gand)", where it lies to the thickness of about one or two inches. It is, when cool, scraped up with a wooden scraper, and is either granular, in which case it is called "shakar," or viscous ("gnr"). If "gur," it is made up into balls of about four seer; weight ("bheli.") "Shakar" is put into earthenware jars. It depends entirely on the quality of the juice whether the produce takes the form of shakar or of gur: and this depends again on the soil and the chraracter of the season. In the above process no chemical appliances are used; but in places lime and water are poured into the boiling juice to clean it, the scum being removed. This is generally done where shakar is produced, and has the result, it is said, of giving it a light colour, which is a recommendation.

The total number of more employed on pressing and boiling of generally seven: two to drive the fullocks, two to feed the mill, and one to hand the cane to the feeders, one in the boiling house, one to feed the furnace outside. The last is a Chanar or menial; but the other six are all of the cultivating class. The Hindu Jats of the Dhaia not only make, but sell at their own price and when they choose their gur and shakar.

Manufacture in the Bét.

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Manufacture there is of two parts, the juice is manufacture there is of two parts, the juice is extracted and boiled at the "beloa" in much the same manner as in the Dhaia; but takes the more liquid form of "ráb." Only one pant is placed on the furnace; and, when two jars are filled with juice they are emptied into this timon is a semining cloth, and the juice boiled. Water boiled with "sakhlaie" bark is added for the purposes of purifying the juice, and the semm is removed as it rises. The boiling takes about 2½ hours. When the boiling is completed the juice, now in a semiliquid state and called "ráb," is taken out in a ladle, and put into an open vessel of earthenware till it cools, when it is poured into high jars ("matti"), the mouths of which are then closed with mud. These jars hold about 3½ to 4 manuds (packa* weight) of ráb.

The boiler, called "rabi," is always a man of the shopkeeping class, boiling being something of an art. The other men at work are, as in the uplands, cultivators or village menials. But the cultivator has really nothing to do beyond extracting the juice. Where the cultivator is not involved and can dispose of his produce himself, the "rabi" is his servant and paid by him. But he is generally the servant of the moneylender who has advanced money on the crop. It will be better if I here describe the relations between the ordinary cultivator of the Bet and his money-lender, as they so materially affect the sugar industry.

[•] The packs maund is the Government standard, and the kacha that in use amongst the people. The latter is about two-fifths of the former.

The Mahomedan cultivator of the Bet is naturally much more thr filess than the Hindu Jat of the uplands. Relation between moneylender and cultivator in the Besides this the area under cane is generally in much greater proportion to the cultivation (12 per cent. in Samrála Bét), and he caunot subsist on his other produce and pay the Government demand while the crop is maturing, so he has to borrow money; and he finds no difficulty in getting as much as he pleases on the security of his cone crop. He is charged a fair rate of interest or the advance, and in payment of it his "ráb" is taken at a valuation according to its quality, the price being fixed year by year. The cultivator is thus entirely at the mercy of the money-lender. The latter depends for this gain not so much on the interest as on the profit that he derives from the manufacture of rdb into sugar; and when the cultivator is completely involved and owes more than he can ever pay, the money-lender seldom proceeds to extremities, provided that enough of cane is grown.

8. The second part of the process of manufacture is completely in the hands of the shopkeeper class, the head-Second process of manuquarters of it being in the town of Machiwarn, factore. which lies just over the Samrala Bet. The rab is taken off in the jars to the shop of the purchaser, in the back room of which, in one of the corners, a space four or five feet square is walled off to the height of about four or five feet. This is called a "kúlmehí." At the bottom of this, about a foot from the ground, a rough strainer is made of sticks fixed in the walls and running across at intervals, on the top of which are placed reeds and on the top of these a course cloth. The sides of the Philach are fined with "chitai," or matting made of river gross. When twenty or thaty has have been collected the tab is poured into the khenchi and left for twenty or thirty days, during which the "sirah" or more liquid part drains off into a receptacle. The rab is then covered with a weed that grows in the water, (called "jala") put on to the depth of two or three inches (see name at p. 308 of "Punjab Products"). This is changed every three or four days for about a fortnight. The effect of this covering and the straining is to clarify the mass; and, as the upper part assumes a light yellowish colour, it is taken off, and the remainder covered up again. The produce thus taken out is put in the sun and trampled. It is then called "khand." Another and superior form of produce is "bura," which is thus made. The sirah is strained off as for "khand," and the "khand" is mixed with one-fourth part water, and boiled for evaporation in a pan for half an hour. It is then taken off and stirred till cool, when it takes the form of "burn." The sirah or "let" (molasses) is boiled and kept in jars till the rains, when it is treated like rab, being put into a khánchí: or if it is not good enough for this, it is used in its liquid form for sweetments, &c.

9. An idea of the relative values of the various forms of produce may be derived from the prices per maund forms of produce. (packa) prevailing last year:—

 Strah
 ...
 Rs. 2-1

 Råb
 ...
 ,, 2-8
 (Raw sugar in a liquid state.)

 Gur
 ...
 ,, 4-0
 (Raw sugar.)

 Shakar
 ...
 ,, 5-0
 (Ditto.)

 Khand
 ...
 ,, 10-0
 (Refined sugar.)

 Bura
 ...
 ,, 12-0 or 13-9
 (Ditto.)

The price of ráb is that allowed to the sultivators by the money-lenders; those of gur and shakar are full prices, as the Jats of the Dhaia sell at full prices; the prices of khand and bura are those prevailing in the bazars of Ludhiana and Machiwara at the time of the trade (March—May.) The prices of all forms of produce vary a great deal from year to year according to the demand, a poor outturn here or elsewhere generally raising them.

Most of the rdb of the Bet finds its way to Máchiwára, the manufacture into khand and bura being in the hands of resident Khattris and others. The following facts as to the total cutturn per

annum of khand and the variation of prices during the last ten years may be interesting. The total number of "khanchis' in the town is about sevenly, and the outturn of khand for each khánchi is on an average 130 maunds packa. This would give the whole trade at 9,100 maunds per annum, worth about Rs. 90,000. The prices per mannd packa have been:—

Rs. 10-0 1878 ... Rs. 15-8 1872 1873 9-8 12-0 1879 " * 8-0 1874 1880 12-0 " " 1875 8-8 1881 10-0 22 23 1876 8-8 1883 9-0 ;, 18-0 1877

There are also khánchis at Bahlolpur, and in a few of the larger villages in the Bét or just over it. This estimate does not take into account the yield of "sirah," of which there is a very large export. From an estimate of the amount of sirah that comes out of each "khánchi," I think that the total value of the export from Máchiwára would be its, 60,000, making the whole trade worth about one and a half lakhs per annum. Octroi is charged on ráb brought into Máchiwára at an ad valorem rate of I per cent.; and the income under this head for the last three years has been, I am informed, Rs. 1,182,683, 1,387, which would make the average value of the "ráb" about one lakh, manufactured and sold as above for about one and a half lakhs. For the khánchis in other places we may add about one lakh as the value of the produce.

11. The "khand" and "bura" produced in Machiwara and the Bet villages, as well as the "gur" and "shakar" of the Dhaia, are bought up for the most part by traders who come in search of it.

The gur or shakar generally finds its way into the "Jangal" or country lying to the south-west of this district (Protected States and Ferozepur district); and some of the khand goes in this direction, too, in return for the common grains brought up by the

trading Jats in their carts. A good deal of the latter also goes by Rail towards Lahore and beyond it, as it is not produced much higher up, and is in great demand with the makers of sweetmeats in large towns. The rustic population preter the raw forms.

Estimated yield per acre cost of cultivation, &c., &c.

Estimated yield per acre cost of cultivation, &c., &c.

In the uplands indicated a yield of ever thirty mainds of "gur" an ecre, and the estimates given by agriculturists point to the same result, some giving a much higher one. They say that the yield of a poor crop is ten kacha (four packa) mainds for a kacha or local bigah, and that a fairly good yield is 20 mainds, while as much as 25 or 30 mainds are obtained in a good year. The result of these estimates is, in our weight—

Kacla maund per kacha b	oigab.	Packa maunds per acre (approximately.)						
10	(I)		20					
20	校被		40					
25		有用	50					
90			60					

The price of gur averages het voen Rs. 3 to 4 a purk i maund, which would give the average grees produce at about Rs. 100 an acre. Beginning from the other end, we find that the rent paid for land in the Dhaia (irrigated) land intended for sugarcane varies from Rs. 12 to 18 and even 20 an acre. The average is about Rs. 15.

In the Bet the crop is poorer, and I would not estimate the value of the outturn at more than Rs. 60 or 70 an acre. Cash rents for the augarcane land do not run so high, averaging about Rs. 10. The average outturn of rab is about 30 maunds (packa) an acre. As before pointed out, it is difficult to say what the actual cost of cultivation of the cane crop is, because each cultivator grows a variety of crops in his holding. The cane crop is always turned into eash, paying the revenue and providing readymoney for marriage and other expenses : while the maize and the rabi crops are mostly eaten. Thus the whole agriculture of the holding hangs together, and we cannot separate any crop and say that its cost of oultivation is so much. Cash rents are not a safe guide for the reasons given before, and because they have to be paid in advance, while the cultivator has to wait at least eighteen months for his return. I should say that the cost of the cultivation would be in the proportion of about 3-4 of the whole outturn, that is if it were done on the present method by a large proprietor employing hired labour. The profit to him would be per acre about Rs. 25 in the uplands, and Rs. 15 or 18 in the lowlands, if he sold the produce in the form of rab.

13. As to the profit in the manufacture of "khand" &c., it is estimated that on an average three maunds of ráb go to one maund of khand, and there is the "sirah" besides. This would make the manufac-

turer's profit upwards of 30 per cent. on his outlay (see relation of prices in paragraph 9.) The labour involved is very small. As a matter of fact the profit is much greater, because interest is charged on the advances and the prices are fixed by the money-lender. One need only point to the wealth in the town of Machiwara as a proof of this. There is not much competition in the trade, which is in the hands principally of a few Khattris, Banias and Súls, the first of these being the majority. The cultivators would not take the trouble of looking to their own interests and securing latter terms even if they were free to do so; and most of them are much too deeply involved. I do not think that much less than 50 per cent. on his outlay returns to the money-lender and manufacturer annually. The transactions are on such a small scale that my calculations as to outturn and profit are, I fear, little better than guesses: but the facts remain that, notwithstanding the relatively much greater rise in the price of grain and heavier labour and other disalvantages involved in the cultivation of cane and the manufacture of gur and rab, the area under cane has been very considerable extended, and there is no tendeney to give up growing it. This points to the crop as a very profitable one, and as to the profits of manifecture from rab there can be no doubt.

14. I can at present see no prospect of such a development of the

Prospects of improvement of the industry and value of the whole. industry as would lend to the separation of the cultivation from the processes of manufacture of gur and rab. No improvement has up to the present been attempted in the mill or in

the process of boiling. It is not unlikely that changes will occur within a short period in respect of these, if endeavours are made to introduce new mills or model hollers. The process of making khand from rath is obviously very rude. The namual value of the outturn of the crop may be estimated at two mills half lickly of rupees (in refined sugar, or less than two in rath in the leakings and nine and a half in the uplands, total twelve takks or nearly twice the revenue of the portion of the district in which came is grown); and there are sugarcane growing districts on three sides of this. I am scarcely prepared to say what would be the result of the introduction of capital on a large cale into the industry; but it would be possible to do much to improve it without taking it out of the hands in which it now is.

Prospects of the trade. Ferozepur line) should bring in a trade from lower down, and cut out that from this district. It is also possible that the extension of irrigation from the Sirhind Canal may very materially affect the trade in gur from the uplands of this district to the southwest, as there is no apparent reason why cane should not grow in the "Jangal." The country through which the Abohar and Bhatinda branches of the canal will run at present draws a great part of its supply from the Ludhiána district, but time only can show whether these apprehensions are well grounded.

"If the south wind blows with clouds; and a widow eats cream: the one will rain and the other go away (with some one); both of these things will surely happen."

15. "Sawér sár da mahengla; sawin sanjh panihár:

Chike tor paráoná: tiliánnun gáte már."

"Clouds in the morning; rain in the evening; a guest who comes after meal time; all three be hauged." Chike for means the time when everything has been eaten, except the fragments (for) kept for the children in a basket (chike).

16. " Barsa Chét : na ghar na khét."

"If rainfalls in Chet the grain will neither come home nor remain in the field:" i.e., rain in the month of Chet does only harm.

17. "More charkha piche kand : is bidh jác bibí de lang :

Khái hanak te palme pat ; ki kare, Jalan Jat "

"If she keeps her spinning wheel before her and the wall behind, a woman will go op all right; if she cuts wheaten bread and dresses in silk, what can you do, Jalan Jut, (to keep her from going wrong)."

This Jalan Jat is an original character who appears in popular stories. He was on one occasion sent by his brother to a Jotsi or astrologer's house to inquire the proper date for the marriage of his brother's daughter. On the road he passed the house of a baid or physician, and heard the people lamenting. He inquired what was the matter, and was told that the poeter's son has dead. He was astonished and said: "Do doctor's children die?" At the Jotsi's house also he found lamentation, and was told that the Jotsi's somial-law lead died. He went along saying the Raidan ghar pine, Jorsius that I be obschildren die and Jotsius common its so favour obschild be basang, habeel means that I be obschildren die and Jotsius common its so favour obschildren for their doughter's materiage as to prevent their being but who was therefore you may its your own 'saba,' or anspecious date for a marriage.

18. "Jatka Jat ua raha kama; bhukha Jat kare salama;

Rajia Jat kade gál; Jat bigáre murshid nál;

Jadon Jat de ábu pake: denda sake bápnum dhake."

These lines are descriptive of the character of the Jat. "Jat will never serve lat: a hungry Jat will make obeisance: a full Jat will give abuse: a Jat will fall out with his murshid (spiritual guid..; when his barrest is secured (dbu means a half ripe condition) a Jat will turn on his own father."

19. "Bhuka Karár, khir khir hase.

Biruka Rangar kamar kase:

Bhuka dat páwe ro : leni ek, na deni do.

"A hangry shop-keeper will hugh loud: a hangry Rangar will pull himself together (tighten his waist); a hungry Jat begins to cry" (the rest is without meanings).

20. "Jat, dhat, sansár kabila gábla;

Káon, Kelál, Kamboh kebila pálda.

A Jat, a bull and an aligator will destroy (or ill use) even their own offspring. A crow, Kalát or Kamboh cherish them."

### APPENDIX XIV

#### Glossary. illustrative sayings, proverbs, &c.

The following glossary has no pretensions to be exhaustive. The names of the crops, agricultural operations, &c., &c., do not differ ordinarily from those in use throughout the Panjab, and may be found in any dictionary; and the words given here are some of the more common ones which are peculiar to the District, and are meant merely to be illustrative.

Vern	ACULAR.	Гиолин								
ad, ad-o-ad	111	eeparate,								
akéran	•••	on one occasion.								
4fi		ogili.								
ái han	444	evening.								
AWARON	4.5	nonseless.								
bedh										
bedna	***									
bagal	***	to sat (drop); also to best.								
baghal	***									
teibia.	•••	enclosure.								
tajn.	***	A Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Cont								
bái	•••	E-C-1 Intelligible mattern								
banota	•••	a lebtor.								
lui C	•••	The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa								
bela		107								
berca	•••	for on or wheat son , not be range								
bhou. North	•••	bale 1 11 1								
hebo, hobe	•••	tuela. r.								
bolist	•••	a beap of grain after threshing.								
beis		a roung boy								
bulábr		} a valinge monin', whose business it is to call the.								
buláteri		) villagers together for any purpose.								
burkas	444	јувор. пре								
	***	··· (4.24) 1/24								
elsakota ababéma	4.07	*** { a fixed sum.								
obakéwa eharánd	***									
clared	•••	grating ground.								
chhás	•••	bucket of a well.								
CHURA	•••	the makes from the furnace of the sugar boiling- house.								
chhallt	•••	Dinise.								
chhida	•••	thin,								
chobac	•••	stout.								
chuga <b>ra</b>	•••	four pairs of buildicks at a well with two buckets.								
chún	***	te corner.								
dáb		a piece of common land cultivated without per-								
dabra	***	a high place								
dáda ladhi		succestral property.								
dagar	•••	a clear road.								
daul	•••	field boundary.								
dathaur	•••	a man who belongs to two villages,								
dbaka	•••	by violence.								
-										

Note,-It has been found impossible in printing to distinguish the consonants by discritical marks.

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( cxvi )
```

```
government revenue.
الغناة
dhem
                                   very hot weather in the rains.
                   ...
dhén
                                   rice.
                  4 - 0
                              ...
                              ... a bull.
dheta
                              ... thick cloth of any sort.
dhusa
                  ...
                               ... in the :aiddle.
gabla
                   ...
                               ... proclaiming aloud.
ghoá
                   . . .
                                   a road.
goliar
                               ... ery, call.
leik.
heili
                               ... revenue.
                   ...
hita khim
                               ... profit and loss.
                   ...
                               ... sugarcane.
ıkh
                   1+4
                               ... a name applied by a woman to her aister's husband
jija
                   ...
                               ... villag tank.
johar
                   .-.
                               ... tenant.
jota
                   ...
                               ... grass.
... clever.
... quarrel.
kakh
                   ...
kalán kár
                   ...
keles
                   •••
                               ... gram, straw.
kand
                   ...
konauji
                               ... a late erop of barley.
                   ...
                               ... for what reason ?
kát
                   •••
                              family.
khál
                   •••
kholna
                   ...
                               ... the man who drives the bullocks down the run of
khimbi
                   ...
                                    the wel.
                               ... a small division of a field.
kheta.
                                   a boiding of laist.
khatáan
                   .
                               . .
                               ... the village homestead.
kliera
                   ...
                               ... a small division of a field.
kiára
                   ...
lág
                               ... near,
                   ...
                               ... anger
laher
                               a cultivator's holding,
the full of one hand open,
lean,
                   ..
lálina
                   ***
lap
                   •••
laiern
                   ...
Khan
                                   cart rucks.
                               ...
                               ... rent.
 malkins
                   ***
                               ... violently.
 mallo malli
                   ...
                               ... drought.
 mandwara
                   ...
                                   form.
 muranga
                   ...
                               •••
                                   irrigated.
 ...
                                   a pillar of mud.
 mid: t
                   ...
                               ***
                               ... peni orty.
 413-11
                   . .
                                   messurer.
 maid t
                   ...
                               . . .
                                   incasuren.onf.
 madi
                   ...
                                   the man who catches the well bucket when it comes
 modhi
                   ...
                               ...
                               ... the opening through which the water goes into the
 náka
                   ...
                                      · field.
                                    the man who lets the water into the field.
 náki
                   ...
                                   eath.
 near
                   ...
                               ...
                               ... straw.
 nira
                   ...
                               ... a village road.
 paná
                   •••
 pabi
                               ... a small road to a well.
                   ***
                               ... cowherd.
 Páli
                   ...
                               ... white clay, very hard.
 rtindu
                   ...
                               ... a public drinking place.
 páo
                   ...
 par kon
                               ... strength.
                   •••
 pathkan
                   • • •
                               enclosure where cowdung cakes are made up.
  pathwara
                   ...
                               ... village boundary.
  mater
                   ...
                                ... emt.
  panadh
```

```
a man who attends to the pao (see shove).
pswáh
                 1 . .
                                  for generations (" pusht dur pusht.")
pursar
                  ...
                                  occupation, trade.
gits
                  ...
                                 trouble, extremity.
quil
                 ...
                             ...
                             ... broom.
rarklin
                 ...
                             ... mannie.
reh
                 ...
                             ... a waste piece of country.
role
                 •••
                             ... something given over and above a purchase.
TUNE
                 ...
                             ... relief. recovery (from sickness, &c.)
esliára.
                 •••
                             ... morning
anthra.
                 ...
                             relationables farourable season (" samman lag gis" :: there has been
Sak irl
                 ...
**mmán
                 ...
                                     rain and the harrest is good.)
                              ... respectable.
81811
                              ... an irstrument of any sort.
eand
                  ...
                              ... evening.
enni
                  ...
                              ... failus.
enowin
                 ...
antjána.
                  ***
                              ... a heap of half-threshed grain.
abud.
                  ...
                              ... irrignted.
einju,
                  * + 4
niar
                              ... a furrow.
                  ...
                              ... In innocent fellow .
sidhra
                  ...
soths.
                              ... sgreament.
                  444
                              ... jeweiry.
tagá ia
                   ***
                                   waste land.
tanpar
                  ...
                               ... a long narrow field.
tick
                  ...
                              recollection.
tismus
                   ...
                              ... a subdivision of the village.
Phule.
                   444
                              ... sandy soil
1.bi
                   ...
                                   village pond
tobalt
                   ...
                              ... balance of revenue due on land
tut
                  ...
                              chorse ("heri me a"," you may take your chinen .
nchai
                   ...
                              ... in find . f fe il fie.
177
                   ...
                              ... the bale of two lands together.
11...141
                  ...
                               ... entireded land,
relation
                   ...
                               ... the stake on which the wheel of the well is sup-
Trub
                   ...
                                      ported.
                                   hedge.
war
                               ... hedged enclosure."
wárah
```

### Specimens of agricultural and other sayings, proverbs, &c.

- 1. "Barsia Diwali; jia phusi, jia hali."
  - "With rain at the Diwali, a bad and a good husbandman are;the same."
- 2. "Kata laga, kál siáte."
- " When the month of Katak begins (15th October), it may be known whether there is to be a scarcity or not."
  - 3. "Assa kar gin ghasau : Katak dhi nde mahengla ; bhule phire guar."
- "If Assoj (15th September 15th October) passes empty (without rain) the man that looks for clouds (rain) in Katak is a fool."
  - 4. "Kateon Sawan kare, ie bhawe kartar."
- "If Gol wills He can make Kátak like Sáwan," i. z., He can give as good rain in Kátak (October) as in Sáwan (August).
  - 5. "Je sir bhije Kakra, Singi bhije pith:

Dak kahe, ' sun Bhadle, samman lage sir bhuj.'"

"If the head of Bakra (last day of Hir) is wet, and the back of Singi (a date at the end of Bhilon) Dak says to Bhadle: "The harvest will be as high as the head." Dak was a famous Brahmin seer, and Bhadle his wife; and the saying means that, if rain falls from the end of Hir to the end of Bhidon (July—September), there will be a splendid harvest.

Two other lines say,

"Je na bhije Kakm ; Singa kháli jái :

Dak kahe sun Bindle, palian bhar bik jái.

- "If there is no rain at Kakra and Singa also passes without it, Dak says to Bhadle, grain will sell by measure of a pali," (a very small dish), i. e. grain will be very dear.
  - 6. "Dáta kál parakhiyé ; dhinmeu Phágan mahán ;

Nári tán parakhiyé, ján dhan pale nán."

- "Famine time is the test of charitable man: the month of Phagan of good milk cow; a wife is tested by poverty (when the pochet is empty)."
  - 7. "Phágan na si jándi ; jad bhar bhar kunála chhándi."

A man says to his wife: "Do you not think of the month of *Phágan* when you till the kneading dish so full," i. c. *Phágan* hong the critical month, when the old grain has been used up, and the new not in, it should always be home in mind in using the store of nead.

- 8. " Má nálon dhi sláni : rule pake páne páni."
- "The daughter is eleverer than he, mother" (spoken sareasfically); she pours water in the food just as it is cooked" (and spoils it).
  - 9. "Asso dekh mitháian; bhar Bhádon kapás:

Chet dekh ke kapak nung bhech bhawe kha.

- "In Assoj look to the cane; throughout Bhadon to the cotton; in Chet look to the wheat (when these seasons have passed without injury to the crops) you may sell or eat (what you have in store without anxiety)."
  - 10. " B'án Bhogedi: airát Jogedi."
- "A marriage in the house of Bhoga and the din (usually attending one) in that of Joga," t. c., one man has cause for relating and mother does a for him,
  - 11. "Má mọi kaphan kolon; dhi da náon bukchi"
- "The mother died without a coffin, and the daughter is called a bagful," said of a person who has risen from nothing.
  - 12. "Je na bhiji Kakra; kás khasáuna lakra."
  - "If Kakra is not wet (see No. 5), what is the use of yoking the plough?"
  - 13. " Kohálián dián báhián : kadóhián dián dóhián :

Kupáliau dián chárian : tine niphal gián."

- "The ploughman, milker and grazer who do not know their work, lose their labour."  $H\acute{a}li = \text{ploughman}$ ; dohi = milker and p.ili = cowherd; the prefix ka or ko means ignorant.
  - 14. "Dakhan bage san badle; rand milái kbá;

O barse; o udule; kháli koi ná já."

- 21. "Panchanda kahna sir mathe: parnála uthe."
- "The panch or arbitrator's decision is bowed to; but the parnála or drain pipe (about which the dispute arose) remains where it was."
- 22. "Baghiára khá na khá, munh lahu bhariya." "Whether the wolf ate the sheep or not it gets the credit for doing so" (lit: its mouth is full of blood).
  - 23. "Banne Jat na cheriye, hati te Karár : Beri mallah na cheriye : bhan dewe buthár."
- "Do not interfere with a Jat in this field, a Karár in his shop, a boatman in his boat; or you will have your face broken".
  - 24. "Dábriwála nál chale: tán main dangar chár liáwán."

A small boy says. "Give me a man with me, and I will herd the cattle."

- 25. "Nau sau chuha kháke billi ; Hájnun chali."
- "The cat goes on a pilgrimage after eating nine hundred mice" said of a wicked person who thinks to sanctify himself by a journey to Mecca.

The most popular songs amongst the Las are the tales of Hir and Rinjha, Mirza and Saheban, Sassi and Panna med many others of the same class well known throughout the Province. These stories have been the subject of poems by Waris Shah ("Bare Shah") of Jandiali Sherkhan, &c., but there are many versions current amongst the people themselves, passed from mouth to mouth. The following verses from a current version of Alirea and Sahiban will serve as a specimen of these popular forms.

### (Sáhibán says):-

"' Uthin, Mirza, sutia jandon ghat wahir, .
Nathe nun jan na denge Sahiban de sake vir,'
Uthia ugare bhanke, chille chahria tir,
Pable mare kaske, phatia dan Shamir.
'Th nun na marin, Mirzia, katha changlan Shir'
Mère na Mirza yèrnun, phar lio mere talah,
Mainun purje parje udadee aise yar de than,
Jitna gunah jahande likh-lo mere naon'."

Mirza, and his friends have taken away Sahiban from her people, and are sleeping. Sahiban's brother and his friends came up. Sahiban says. "Get up Mirza from the jand tree and take the road with your friends, my brother will never let you go." Mirza get up and yawned; then he strong his bow and fired, wounding Shamir" (Sahiban's brother). (Sahiban says to Mirza) "Do not kill him, Mirza, we drunk the same milk": (to her brother) "do not kill Mirza, my lover; seize me and tear me in pieces in his place. Set down all the sins in the world to my name."

Marriage and funeral songs are generally without much in the way of rhyme or mesning, and the former are generally unfit to be reproduced, the

following is a specimen of "gheri" or song sung at the bride-groom's house when the date of the marriage is announced:—

"Aj din haria; aj ándi gur di rori, Satgur kiti Rám jori; Ajdin ánda tél ji; Satgaru kita melji Mere Govind kita melji."

"To-day is a luky day, to-day gur has come." (Gur is distributed on the occasion). The Guru and God have made the union. To-day oil has been brought, the Guru has made the union; my Govind made the union."

The following is a specimen of the "sohag" or song in the bride's house:--

Sanindon kahia babal tenun chinta pari;

'Na, bibt, meri nind sonind, as mainun chinta pari,'

'Háth pher sonti, láha, ter kar dhoti, Bibida var bhálan já."

This is addressed to the father of a marriageable girl, who ought to have married her to some one. "Where have you gone to sleep, father of the girl, how can you sleep? Can you sleep quietly, are you not anxious." (He replies) "I am neither at ease nor in anxiety." "Take a stick in your hand and gird your loins; go and look for a husband for the girl."

T. GORDON-WALKER, Settlement Officer.